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ABSTRACT

This curriculum guide provides a model for organizing vocational instructional content from which secondary level instructors can extract a graphic arts curriculum that meets local needs. Primarily oriented towards classroom use, this guide may also assist administrators, counselors, and lay people involved in local school systems. Following a discussion of the philosophy and objectives underlying state and local vocational education programs in Georgia, the purpose and objectives of the guide are set forth. Various occupational information pertaining to the field of graphic arts is provided, including a description of the occupational field of graphic arts, employability skills, student exit points, and tasks performed by persons employed in the field. Following a sample curriculum structure and course outline, a series of unit guides are presented. Each of these contains a task statement, a performance objective, instructional activities, suggested instructional materials, and evaluation criteria. The next two sections consist of listings of references and resources and various student record forms. Set forth next are suggestions for working with special needs students. Facility layouts for a learning resource center and a learning laboratory are also included. (MN)

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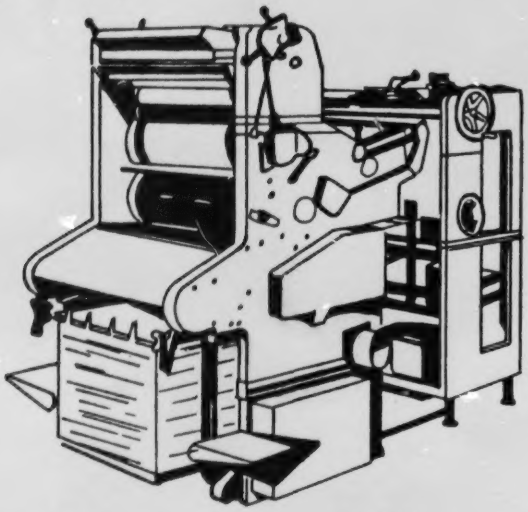

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CURRICULUM GUIDE

Georgia Department of Education

GRAPHIC ARTS

Developed Under Contractual Agreement with

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Georgia Department of Education
Atlanta, Georgia 30334
Charles McDaniel, State Superintendent of Schools
1981

GRAPHIC ARTS CLUSTER

Developed By

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Under the Direction of

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POLICIES AND PROCEDURES FOR THE CENTER

PURPOSE OF THE CENTER

The Vocational Education Materials Center functions within the Division of Vocational Education, University of Georgia. This Center operates under grants from the U.S. Office of Education, and the Georgia State Department of Education with the support of the College of Education. The Center is comprehensive in its commitment and approach to the development and dissemination of materials in the broad field of Vocational Education.

The purpose of the Center is to increase the capability of Georgia's delivery system for Vocational Education. Specifically, the Center is committed to:

1. Develop materials to assist in the implementation of proposed curricula and to enhance the teaching of Vocational Education.
2. Conduct and report curriculum research related to Vocational Education.
3. Provide a production and dissemination center for Vocational Education materials.
4. Provide direct experiences in curriculum development and diffusion for advanced graduate students.
5. Enable faculty members to participate in the development and implementation of a variety of curriculum materials.

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SECTION I

PHILOSOPHY & GOALS

VOCATIONAL EDUCATION IN GEORGIA

A. PHILOSOPHY

The Georgia Board of Education perceives vocational education as a vital component in the education of the young and adult citizens of this State. Appropriate programs of vocational education and ancillary services should be made readily available to individuals in middle schools, high schools, postsecondary area vocational-technical schools, vocational divisions of junior colleges, vocational centers, the Quick Start program and other adult programs designed to train or retrain workers for useful and satisfying employment.

Special services and assistance must be provided to those who need it in order to participate or benefit from vocational education. This includes women, minorities, the displaced homemaker and other displaced workers, those with limited English-speaking ability, the disadvantaged and the handicapped.

Since men and women spend the greater part of their lives at some form of work, the State should provide opportunities for all its citizens to develop the knowledge, skills and attitudes necessary for them to secure personally satisfying and socially useful employment.

B. PURPOSE

The purpose of vocational education shall be to improve the economic well-being of Georgia citizens by preparing individuals, through organized learning experiences, to select, obtain and advance in recognized occupations.

SECONDARY VOCATIONAL EDUCATION

A. PURPOSE

The purpose of secondary vocational education is to provide training opportunities to middle school students which are of sufficient variety and quality to enable them to make wise career choices, and at the high school level to become familiar with one or more occupations of interest and to specialize in a given occupation to the extent needed to acquire entry-level job skills and knowledge, or to enter more specialized training at the postsecondary level.

B. OBJECTIVES

1. At the middle school level, to provide exploratory PECE and Industrial Arts programs.
2. At the high school level, to provide:
    a. Exploratory and prevocational Industrial Arts programs.
    b. Prevocational programs in occupational clusters for entry into specialized programs in the 11th and 12th grades, or at the postsecondary level.
    c. Training in a single occupational skill of sufficient depth to gain entry-level employability, or the option to continue specialized training at the postsecondary level.
    d. Competency-based programs of occupational preparation which enable students to advance as far as possible through a planned sequence of courses leading to an occupational objective of greatest interest to the student.
    e. Opportunities and activities for students to develop and improve affective skills needed for employment.
    f. Vocational guidance, counseling, remedial and supportive programs and services needed by students to select and complete a program of vocational education.
    g. Ancillary and supportive services necessary to ensure that all students have access to training opportunities regardless of race, sex, national origin, disadvantagement or handicap.
    h. Opportunities for students to obtain or improve Home Economics and Consumer Education skills.
    i. Vocational education programs such that 50% of those individuals who complete or leave a program of occupational preparation, and are available for employment, find employment in the field for which trained, or in a related field.

STATEMENT OF LOCAL SYSTEM PHILOSOPHY, PURPOSE AND GOALS FOR VOCATIONAL EDUCATION

SECTION II

PURPOSE & OBJECTIVES

PURPOSE OF GUIDE

The purpose is defined in terms of the functional needs of each of the identified classes of users in the secondary and post secondary systems.

(a) Vocational teachers.

1. Provide a guide for organizing their program of instruction,
2. Assist in establishing program objectives,
3. Serve as a curriculum materials resource guide,
4. Improve communications with employers and advisory committees,
5. Facilitate competency based instruction,
6. Facilitate either group or self-paced instruction,
7. Include content by quarter and semester,
8. Cross-reference with existing state developed instructional materials (PLACE packages and post secondary I.I.).

(b) Vocational supervisors and administrators.

1. Assist in defining the scope and content of their programs,
2. Provide a means to improve curriculum management functions,
3. Serve as a guide for admissions and job placement functions,
4. Improve communications with employers and advisory committees.

(c) Counseling and guidance staff.

1. Provide a data base for counseling and guidance personnel,
2. Identify student exit points (Carrer Options),
3. Serve as guide for admissions and job placement,
4. Correlate with the new State Board of Education graduation requirements,
5. Provide specific content sequencing by quarter and semester for student scheduling,
6. Provide (a) curriculum options for the disadvantaged handicapped student, (b) curriculum modifications for SPECIAL NEEDS students, (c) typical admission requirements for regular and SPECIAL NEEDS students.

(d) Local Curriculum Coordination Committees.

1. Serve as a guide in working out articulation arrangements,
2. Improve definitions of the relationship between secondary clusters and post secondary specialized programs.

This guide will serve as an ideal communication device between school personnel and the craft advisory committee. By personally reviewing the guide with the local craft advisory committee the teacher will be able to maintain the accuracy of the guide in terms of the local job market and will also be able to inform representatives of local industry regarding the content of the program itself.

GRAPHIC ARTS/PRINTING PROGRAM OBJECTIVE

Given appropriate instruction, as suggested by this guide, a student completing the program should demonstrate entry level skills in Graphic Arts/Printing in the areas of knowledge, theoretical structure, tool usage, diagnostic ability, related supportive skills and occupational survival skills.

As the student progresses through the program, sufficient competencies will be acquired to enable the student to enter the occupational field at the following curriculum exit points.

Graphic Designer Layout Artist	(D.O.T. Code 141.061-018)
Photographer, Still	(D.O.T. Code 143.062-030)
Phototypesetter Operator	(D.O.T. Code 650.582-022)
Printer	(D.O.T. Code 651.380-010)
Offset Press Operator	(D.O.T. Code 651.482-010)
Offset-Duplicating Machine Operator	(D.O.T. Code 651.684-014)
Bindery Worker	(D.O.T. Code 653.685-010)
Offset Platemaker	(D.O.T. Code 971.381-018)
Stripper, Photolithographic	(D.O.T. Code 972.381-022)
Copy Cameraman	(D.O.T. Code 972.382-010)
Photographer Lithographic	(D.O.T. Code 972.382-014)
Litho-Make-Ready Assistant	(D.O.T. Code 972.664-010)
Paste-Up Copy Camera Operator	(D.O.T. Code 979.381-018)
Graphic Arts Technician	(D.O.T. Code 979.382-018)
Print Shop Helper	(D.O.T. Code 979.684-026)
Screen Printer	(D.O.T. Code 979.684-034)

PERFORMANCE STANDARDS REQUIRED FOR GRADUATION

Students are required, by the State Board if Education to demonstrate competency in the adult life roles of the learner, individual, citizen, consumer and producer. The performance standards for the adult life role of the learner will be measured statewide. The local Boards of Education are required to adopt and validate performance indicators for the adult life roles of the individual, citizen, consumer and producer.

Performance Standards (State Board of Education)

A. Learner

1. The student reads and interprets communication on a functional level.
2. The student comprehends information received and applies that information in a variety of everyday situations.
3. The student writes legible appropriate personal and career communications on a functional level.
4. The student receives and transmits oral and visual communication on a functional level.
5. The student employs estimation, approximation and calculation skills in everyday living situations.
6. The student understands and uses various forms of scales and measurements, graphs, charts, tables, symbols and other graphic representations.
7. The student applies basic arithmetic operations (adding, subtracting, multiplying and dividing) in an everyday context.
8. The student applies basic geometric shapes and positions necessary for daily mathematical functions.
9. The student uses a variety of information resources to obtain assistance and information.
10. The student employs logical, intuitive and creative thinking processes.

Performance Standards (Local Board of Education)

B. Individual

1. The student knows appropriate emergency responses to accidents and demonstrates preventive actions for health and safety hazards.

2. The student recognizes and practices sound personal health habits necessary to maintain physical and mental well-being.

3. The student understands the sound health care principles involved in family living, parenting and parenthood.

C. Citizen

1. The student understands the basic structure and functions of the American system of Government and the American economic system.

2. The student knows basic legal rights and responsibilities of the citizen under the American judicial and penal systems.

3. The student recognizes relationships between current societal and environmental problems and the individuals' role and responsibilities.

D. Consumer

1. The student knows the principles of sound personal financial planning and management.

2 The student identifies the legal rights and responsibilities of the consumer in buying and selling goods and services.

E. Producer

1. The student analyzes personal career opportunities and choices through career planning and management.

2. The student demonstrates the skills necessary to obtain employment.

Program Competencies

This program will provide opportunities for the student to demonstrate competencies in the following performance standards. The standards are "keyed" to the above list by letter and number (i.e. A-1, 4, 9; B-3; C-1; etc.).

Performance Standards:

A-1., 2., 3., 4., 5., 6., 7., 8., 9., 10.

B-1., 2.

C-3

D-2

E-1., 2.

SECTION III

D. O. T. DESCRIPTION, EXIT POINTS, TASKS

DESCRIPTION OF OCCUPATIONAL FIELD

The primary purpose of this section is to provide a general orientation to the occupational field. This orientation may be used by counseling and guidance staff in helping students to select subject areas. It may also be used by instructors for new students just entering the program area. The description delimits the scope of the occupational field in terms of the range of activities involved in a series of occupations. It contains information about career potential within the occupational field, including job market conditions and trends.

The description identifies prerequisite skills and knowledge for those students interested in entering the occupational field. In addition, the Description of Occupational Exit Points are provided to aide the instructor in identifying possible jobs for early leavers. A listing of employability skills is also included in this section.

DESCRIPTION OF OCCUPATION

*Graphic Arts Occupations

Nature of the Work

Compositors: Compositors set type. Nearly all compositors use machines and press keys similar to a typewriter's. Type is set by hand only for very special printing jobs.

Most compositors work for newspaper plants, or for commercial printing plants, book and magazine printers, and printing plants. Some work for banks, insurance companies, advertising agencies, manufacturers, and other firms that do their own printing.

Lithographers: Lithography, also known as offset printing, is a printing process in which the material to be printed is either drawn or reproduced photographically on a flat metal plate. Then the plate is treated chemically so that the printing areas will attract ink while the nonprinting areas repel it and stay blank.

Lithographic workers specialize in different steps of the printing process. Some are camera operators; others are artists, strippers, or platemakers.

Lithographers work for commercial printing plants, newspapers, and book and magazine printers. Some work for the U.S. Government Printing Office.

Photoengravers: Photoengravers make metal printing plates of drawings, photographs, and other copy that cannot be set in type. These plates are then printed in the letterpress process.

Over half work in shops that make photoengravings for other printing firms. Other employers include newspapers, photoengraver shops, book and magazine printers, and the Federal Government. Some photoengravers have their own shops.

Printing Press Operators: These workers set up, adjust, and operate offset, letterpress, and gravure printing presses.

Over half work in commercial printing plants or in the printshops of book, newspaper, and magazine publishers. Others work for banks, insurance companies, manufacturers, and other organizations that do their own printing.

Bookbinders and Bindery Workers: Bookbinders glue, sew, or staple the pages and the covers together to produce a book. They operate machines and do some of the work by hand.

Many work in shops that specialize in bookbinding. Others work in bindery departments of book publishing firms, commercial printing plants, and large libraries.

Some skilled bookbinders work in hand binderies. They design original bindings for a limited number of copies of a large edition, or restore and rebind rare books.

Working Conditions

Compositors: Working conditions vary from plant to plant. Some are hot and noisy. In general, new plants are well-lighted and clean. Many compositors are union members.

Lithographers: Although the work is not strenuous, lithographers are on their feet much of the time. They sometimes are under pressure to meet publication deadlines. Many lithographers are union members.

Photoengravers: Although the work is not strenuous, photoengravers stand up much of the time. Good eyesight is particularly important because of the close work and color discrimination imvolved. Most photoengravers are union members.

Printing Press Operators: Pressrooms are noisy and workers in some areas wear ear protectors. Press operators are subject to hazards when working near machinery. They sometimes work under pressure to meet deadlines. Many pressroom workers are union members.

Bookbinders and Bindery Workers: Bookbinding shops are noisy when machinery is operating. Long periods of standing and constant use of the arms can be tiring. Many bindery workers are union members.

Places of Employment

Compositors: About 181,000 workers were employed as compositors in 1978. About one-third work for newspaper plants. Many others worked for commercial printing plants, book and magazine printers, and Federal, State, and local governments. Some worked for banks, insurance companies, advertising agencies, manufacturers, and other firms that do their own printing.

Composing room workers are located in almost every community throughout the country, but they are concentrated in large cities.

Lithographers: About 28,000 skilled lithographers were employed in 1978. Many worked for commercial printing plants, newspapers, and book and magazine printers. Some worked in U.S. Government printing plants.

Although lithographic workers are located in all parts of the country, most are employed in large cities.

Photoengravers: An estimated 8,000 skilled photoengravers were employed in 1978. More than half worked in commercial shops that make photoengravings for other printing firms. Newspapers and photogravure shops employed several thousand photoengravers. Book and magazine printers and the Federal Government also employ these workers. Many photoengravers have their own shops.

Although photoengravers are located in all parts of the country, employment is concentrated in large printing centers, such as New York City, Chicago, Philadelphia, and Los Angeles.

Printing Press Operators: About 167,000 press operators and assistants were employed in 1978. More than half worked for commercial printing shops and book and magazine publishers. Many others had jobs in newspaper plants. Some press operators and assistants work for banks, insurance companies, manufacturers, and other organizations that do their own printing, such as Federal, State, and local governments.

Press operators and assistants can find jobs throughout the country, but employment is concentrated in large cities.

Bookbinders and Bindery Workers: About 69,000 bookbinders and bindery workers were employed in 1978. Many worked in shops that specialize in bookbinding; others work in the bindery departments of book printing firms, commercial printing plants, and large libraries. Some bookbinders worked for the Federal Government.

Although bookbinders work in all parts of the country, employment is concentrated in large printing centers such as New York City, Chicago, Washington, DC, Los Angeles, and Philadelphia.

Training, Advancement and Other Qualifications

Compositors: Skilled compositors usually learn their trade through a 6-year apprenticeship. This period may be less for apprentices who have already worked in the printing industry. Shorter apprenticeships also are customary for people who have had courses in printing technology.

Applicants for apprenticeship generally must be high school graduates. Courses in mathematics and English, especially spelling, are important, and a background in electronics and photography is increasingly useful.

Lithographers: Lithographic craft workers usually must complete a 4- or 5-year apprenticeship program. Apprenticeship applicants usually must be high school graduates and at least 18 years old.

Some lithographers learn the craft by taking a 2-year program in printing technology at a technical institute, junior college, or college.

High school courses in printing, photography, mathematics, chemistry, physics, and art are helpful.

Photoengravers: Most learn through a 5-year apprenticeship program. Apprenticeship applicants must be at least 18 years old and generally must have a high school or vocational school education.

Printing Press Operators: Most press operators learn through apprenticeship, while some learn as helpers or press assistants. Others obtain their skills through a combination of work experience and vocational or technical school training.

The length of apprenticeship and the content of training depend largely upon the kind of press used in the plant. Apprenticeships in commercial shops generally last 2 years for press assistants and 4 to 5 years for press operators.

Mechanical aptitude is important in making press adjustments and repairs. The ability to visualize color is essential for work on color presses. Physical strength and endurance are needed for work on some kinds of presses, where operators lift heavy plates and stand for long periods.

Bookbinders and Bindery Workers: A 4- or 5-year apprenticeship generally is required to qualify as a skilled bookbinder. Apprenticeship applicants usually must have a high school education and be at least 18 years old.

Although most bindery workers learn their tasks through on-the-job training lasting from several months to 2 years, many learn through formal apprenticeship.

Accuracy, patience, neatness, and good eyesight are qualities needed by bookbinders. Good finger dexterity is necessary for workers who count, insert, paste, and fold.

Employment Outlook

Compositors: Employment of compositors is expected to decline through the 1980's. Nevertheless, a few thousand job openings are expected each year as experienced workers retire, die, or change occupations.

In spite of the anticipated expansion in the volume of printing, employment of compositors is expected to decline because of the trend to high-speed phototypesetting and typesetting computers. These high-speed machines require fewer operators than the traditional hot-metal method of typesetting. Changes in printing technology are expected to have the greatest impact on compositors employed by newspapers. Thus, employment prospects will be somewhat better for compositors in commercial shops.

For the jobs that do become available, opportunities should be best for persons who have completed post-high school programs in printing technology, such as those offered by technical institutes and junior colleges. Many employers prefer to hire applicants who have completed these programs because the comprehensive training that they receive helps them learn composing room trades and adapt to new processes and techniques more rapidly.

Although most job opportunities will continue to be in the printing industry, a growing number will be found in other industries, such as paper and textile mills, which are doing their own typesetting instead of contracting it to printing firms.

Lithographers: Employment of lithographers is expected to increase faster than the average for all occupations through the 1980's. In addition to the job openings resulting from employment growth the need to replace workers who retire, die, or change occupations will provide some openings.

Employment of lithographic workers is expected to increase in response to the continued growth of offset printing. Commercial printing firms and newspaper publishers increasingly are using offset printing methods instead of letterpresses. Demand for workers also will result from the greater use of photographs and drawings in printed matter, and by the more widespread use of color in many printed products.

Employment opportunities should be best for people who have completed post-high school programs in printing technology, such as those offered by technical institutes and junior colleges. Many employers prefer to hire applicants who have completed these programs because the comprehensive training they receive helps them learn lithography and adapt more rapidly to new processes and techniques.

Photoengravers: Employment opportunities for photoengravers are expected to be scarce in the years ahead. Despite the growing use of photographs and other illustrations in publications, employment of photoengravers will decline as many firms switch from letterpress to offset printing, which requires no photoengraving. Also, new technological advances, such as color scanners and color enlargers, plus the trend toward automated platemaking should reduce the need for these workers. However, due to the expected growth in gravure printing, there will be some employment opportunities for gravure photoengravers. In addition, some job openings are expected each year as experienced photoengravers retire, die, or leave the occupation for other reasons.

Printing Press Operators: Employment of press operators is expected to increase more slowly than the average for all occupations through the 1980's. The increased use of faster and more efficient presses, will partially offset the need for more press operators arising from the growth in the amount of printed materials.

In addition to the jobs from created by growth in demand for printing, a few thousand openings will arise each year as experienced workers retire, die, or leave their jobs for other reasons. However, printing press operators are expected to face competition for jobs. Since there are generally long waiting lists for apprenticeship programs, most people will have to take jobs as press assistants or unskilled laborers before being selected for an apprenticeship. It is not uncommon for a person to work 2 or 3 years or more before beginning apprenticeship training.

Since many firms are switching to web-offset presses from letterpresses or sheet-fed presses, opportunities are expected to be more favorable for web-press operators.

Although most job opportunities will continue to be in the printing industry, a growing number of openings will be found in other industries, such as papermills, which are doing more of their own presswork instead of contracting is out to printing firms.

Bookbinders and Bindery Workers: Employment of bookbinders and bindery workers is expected to increase more slowly than the average for all occupations through the 1980's. Nevertheless, some job openings will arise as experienced workers retire, die, or change occupations.

Despite the anticipated increase in the amount of bound printed materials, employment growth will be limited by the increasing mechanization of bindery operations. Job opportunities are expected to be better for skilled bookbinders than for bindery workers since many tasks that bindery workers used perform by hand will be done by machine.

For example, the use of integral folders that automatically fold pages as they come off the press eliminates the need for bindery workers to do the folding by hand. In addition, many binderies are installing sophisticated conveyor belt systems to transport materials. This equipment also will reduce the need for bindery workers.

Sources of Additional Information

Compositors: Details about apprenticeship and other training opportunities may be obtained from local employers such as newspapers and printing shops, the local office of the International Typographical Union, or the local office of the State employment service.

For general information on composing room occupations, write to:

American Newspaper Publishers Association, The Newspaper Center,
P,O. Box 17407, Dulles International Airport, Washington,
DC 20041.

Graphic Arts Technical Foundation, 4615 Forbes Ave., Pittsburgh,
PA 15213.

Printing Industries of America, Inc., 1730 N. Lynn St., Arlington,
VA 22209.

Lithographers: Details on apprenticeship and other training opportunities in lithographic occupations are available from local employers such as newspapers and printing shops, local offices of the Graphic Arts International Union, or the local office of the State employment service. For information on schools that offer courses in printing technology, write to:

Graphic Arts Technical Foundation, 4615 Forbes Ave., Pittsburgh,
PA 15213.

For general information on lithographic occupations, write to:

American Newspaper Publishers Association, The Newspaper Center,
P.O. Box 17407, Dulles International Airport, Washington,
DC 10041.

American Photoplatemakers Association, 556 West 167 St., South
Holland, IL 60473.

Graphic Arts Internation Union, 1900 L. St. NW., Washington, DC
20036.

International Printing and Graphic Communications Union, 1730
Rhode Island Ave. NW., Washington, DC 20036.

Printing Industries of America, Inc., 1730 N. Lynn St., Arlington,
VA 22201.

Photoengravers: Details about apprenticeship and other training opportunities may be obtained from local employers such as newspapers and printing shops, the local office of the union mentioned above, or the local office of the State employment service.

For general information on photoengravers, write to:

American Newspaper Publishers Association, The Newspaper Center,
P.O. Box 17407, Dulles International Airport, Washington,
DC 20041.

American Photoplatemakers Association, 556 West 167 St., South
Holland, IL 60473.

Graphic Arts Technical Foundation, 4615 Forbes Ave., Pittsburgh,
PA 15213.

Graphic Arts International Union, 1900 L St. NW., Washington, DC
20036.

Printing Industries of America, Inc., 1730 N. Lynn St., Arlington,
VA 22201.

Printing Press Operators: Details about apprenticeships and other training opportunities may be obtained from local employers such as newspapers and printing shops, the local office of the union mentioned above, or the local office of the State employment service.

For general information about press operators and assistants, write to:

American Newspaper Publishers Association, The Newspaper Center,
P.O. Box 17407, Dulles International Airport, Washington,
DC 20041.

Graphic Arts International Union, 1900 L. St. NW., Washington,
DC 20036.

Graphic Arts Technical Foundation, 4615 Forbes Ave., Pittsburgh,
PA 15213.

International Printing and Graphic Communications Union, 1730
Rhode Island Ave., NW., Washington, DC 20036.

Printing Industries of America, Inc., 1730 N. Lynn St., Arlington,
VA 22209.

Bookbinders and Bindery Workers: Details about apprenticeships and other training opportunities may be obtained from local bookbinding shops, local offices of the International Graphic Arts Union, or the local office of the State employment service.

For general information on bookbinding occupations, write to:

American Newspaper Association, The Newspaper Center, P.O. Box 17407, Dulles International Airport, Washington, DC 20041.

Graphic Arts Technical Foundation, 4615 Forbes Ave., Pittsburgh, PA 15213.

Graphic Arts International Union, 1900 L. St. NW., Washington, DC 20036.

Printing Industries of America, Inc., 1730 N. Lynn St., Arlington, VA 22201.

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*Description of Occupational Handbook, 1980 ed.

DESCRIPTION OF OCCUPATIONAL TITLES*

141.061-018 GRAPHIC DESIGNER

Designs art and copy layouts for material to be presented by visual communications media, such as books, magazines, newspapers, television, and packaging. Studies illustrations and photographs to plan presentation of material and copy, selects style and size of type, and arranges layout based upon available space, knowledge of layout principles, and esthetic design concepts. Draws sample of finished layout and presents to art director for approval. Prepares notes and instructions for workers who assemble and prepare final layouts for printing. Reviews final layout and suggests improvements as needed. May prepare illustrations or rough sketches of material according to instructions of client or supervisor. May prepare series of drawings to illustrate sequence and timing of story development for television production. May mark up, paste up, and assemble final layouts to prepare layouts for printer. May specialize in particular field, medium, or type of layout.

143.062-030 PHOTOGRAPHER, STILL

Photographs subjects using still cameras, color or black-and-white film, and a variety of photographic accessories. Selects and assembles equipment according to subject material, anticipated conditions, and knowledge of function and limitations of various types of cameras, lenses, films and accessories. Views subject and setting and plans composition, camera position, and camera angle to produce desired effect. Arranges subject material, poses subject, or maneuvers into position to take candid photo. Estimates or measures light level, using light meter or creates artificial lighting with flash units, lights, and lighting equipment. Adjusts lens aperture and shutter speed based on combination of factors, such as lighting, depth of field, subject motion, and film speed. Determines subject to lens distance, using tape measure, range finder, ground glass, or reflex viewing system to adjust focus. Positions camera and trips shutter to expose film. May calculate variables, such as exposure time, exposure interval, filter effect, and color temperature using tables, standard formulas, and mechanical or electronic measuring instruments. May make adjustments to camera, lens, or equipment to compensate for factors, such as distorted perspective and parallax. May be required to have detailed knowledge of use and characteristics of various types of film, including specialty films, such as infrared. May design, build, arrange, or secure properties and settings to be used as background for subject material. May direct activities of other workers. May mix chemicals, process film and photographic paper, and make contact and enlarged prints. May spot and retouch prints and negatives. May conceive and plan photographic sequence for effective presentation. May specialize in particular type of photography, such as illustrative, fashion, architectural, or portrait and be designated accordingly.

650.582-022 PHOTOTYPESETTER OPERATOR

Operates keyboard of automatic phototypesetting machine to photographically print type matter onto film or strips of photosensitive paper to prepare positives or paper flats for making printing plates. Loads roll of photosensitive paper or film into camera magazine, positions magazine on machine, and pulls lever to open exposure slot. Starts typesetting machanism. Turns dial to select lens and regulate gear that controls size (magnification or reproduction) of matrix letter, exposure, and light intensity, or moves selector levels, depresses keys or control buttons to select style and size of type. Depresses keys of keyboard to select foto mats for printing onto photopaper or film. Cuts photopaper with knife to separate exposed portion. Removes exposed photopaper or film from magazine for developing. May perform routine maintenance and adjustments on machine, using handtools.

651.380-010 PRINTER

Sets up and operates printing presses, plate-making equipment, and paper-cutting, drilling and folding machines, to print and produce items, such as decorative box wrappers, direct-mail advertising pieces, office forms, menus, and weekly house organ in business or industrial establishment. Duplicates negative on photographically sensitized metal plates, using exposure frame. Sponges exposed plates with chemical solutions to develop image and washes plate, using water and sponge. Sets metal type in chase by hand. Mounts lithographic plate on cylinder of offset printing press and mounts type on cylinder of cylinder press or flatbed letterpress. Loads stock in feeder magazine of press. Turns screws to adjust paper feed guides. Fills ink and moisture reservoirs and starts press to print sample sheet. Examines sample sheet to determine printing defects, such as off-level areas, variations in ink volume, register slippage, indications of offsetting, and color register. Adjusts press controls, inking fountains, and automatic feeders, and repacks cylinder overlay to equalize off-level areas as required. Operates press to print production run. Sets up and operates power shear to cut sheets of paper or cardboard to specified dimensions. Operates paper-drilling machine to punch or drill holes in printed paper. Operates automatic sheet folder to fold printed sheets of multi-page items. Places cardboard sheet on top of specified number of office forms and spreads glue along one edge of stock to make pads. Maintains and repairs presses and machines, using handtools. May operate vertical process camera to produce paper offset printing plates by photo-direct method. May repair office addressing, duplicating, and mailing equipment operated by other workers.

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651.482-010 OFFSET-PRESS OPERATOR

Makes ready and operates offset printing press to print single and multicolor copy from lithographic plates, examining job order to determine press operating time, quantity to be printed, and stock specifications. Washes plate to remove protective gum coating. Builds up back of plate with sheets of folio to raise plate to printing level. Installs plate with backing on plate cylinder and locks in position, using handtools. Applies folio to blanket cylinder to build up to diameter of plate cylinder. Fills ink fountains. Adjusts space between blanket and impression cylinders according to thickness of paper stock. Adjusts controls to regulate moisture delivery to plate cylinder. Operates press to secure proof copy. Examines proof and adjusts press controls to obtain specific color registration. Starts press and completes production run. Removes and cleans plate and cylinders at end of run.

651.682-014 OFFSET-DUPLICATING-MACHINE OPERATOR

Operates machine to reproduce typewritten matter, drawings, graphs, and similar material by photo-offset process. Applies specified chemical agents to surface of printing plate and secures treated plate in machine. Moves controls to set machine for size and thickness of paper, to center printed impression, and to regulate flow of ink and speed of paper feed according to material to be reproduced. Cleans printing plates after use, using type cleaner or solvent, and applies gum solution to prevent deterioration. May operate auxiliary machines, such as collator, folding machine, stapler, and paper punching, cutting, and perforating machines. May operate copy camera to prepare negatives for offset plates. May operate enlarger, plate-burner, and related equipment to prepare negatives and transfer them to printing plates.

653.685-010 BINDERY WORKER

Tends one or more machines and performs any combination of following duties involved in binding books, magazines, pamphets, directories, and catalogs. Punches holes in paper sheets, using gang-punch press. Stamps numbers on sheets by hand or machine. Creases and compresses signatures prior to affixing covers, using handpress. Fastens sheets or signatures together, using hand or machine stapler, or tends machine that inserts wire or plastic binding strips into punched holes to fasten pages and covers together. Feeds covers, signatures, and sheets into various machines for stitching, folding, ruling, roughing, indexing, and gluing operations. Removes, stacks, and packs printed material in various stages of completion as it accumulates on delivery table of machines. Examines stitched or bound books and magazines to ascertain that pages or signatures are bound in numerical or folio order according to sample copy, and for such defects as imperfect bindings, ink spots, and torn, loose, and uneven pages. Inserts illustrated pages or extra sheets into catalogs or directories by machine. Places paper jackets on acceptable books. Applies goldleaf, silver leaf, or metallic foil on book covers. Stamps designs or lettering on covers, using stamping machine.

971.381-018 OFFSET-PLATE MAKER

Operates copy camera to photograph prepared copy, and transfers photographic image to stencils or to plates used in offset printing. Photographs typed, printed, written, or other material. Develops and dries negative, using darkroom equipment. Examines negative to detect defects and blocks out defects or undesired portions of negative, using brush and opaque liquid. Exposes negative to positive film, using artificial light, and develops positive, using darkroom equipment. Brushes photosensitizing solution on stencil sheet or plate and exposes stencil or presensitized plate to positive film under light. Develops and dries images on stencils or plates, using darkroom equipment.

972.381-022 STRIPPER, PHOTOLITHOGRAPHIC

Positions negative and positive film on layout sheets to assemble film flat used in production of photoliographic printing plates, according to customer specifications, using precision measuring instruments and artists' work aids. Secures layout sheet to illuminated table and positions sheet of translucent paper over layout sheet. Positions film negatives on translucent paper according to customer specifications and alines negatives with guides and reference marks on layout sheet, using triangles, straightedges, dividers, and magnifier. Trims and fits negatives to sheet, using tape. Touches up negative to conceal pinholes and other imperfections, using artists' brush and opaque. Draws ruled lines and borders around negatives, using scribing tools. Inverts assembled film flat on table and cuts exposure windows behind image areas of negative, using dividers, beam-compass, and razor blades. Routes completed negative flat to platemaking department for preparation of proof print that is submitted to customer for approval. Assembles full page positive film flat according to customer specifications. Examines positive film, using magnifier, and repairs broken lines and incomplete and missing halftone dots, using needle and crayon pencil. Routes completed positive flat to platemaking department for preparation of photolithographic printing plates.

972.382-010 COPY CAMERAMAN

Duplicates printed material on sensitized paper, cloth, or film according to customer specifications, using photographic equipment and handtools. Reads work order and confers with supervisor to determine processes, techniques, equipment, and materials required. Places original on sensitized material in vaccum frame. Mounts camera on tripod or stand and loads prescribed type and size film in camera. Sets camera controls to regulate exposure time according to line density of original and type of sensitized material. Activates camera to expose sensitized material, imprinting original on material. Develops exposed material. Examines developed reprint for defects, such as broken lines, spots, and blurs, and touches up defects, using chemicals, inks, brushes, and pens. May enlarge reprints. May reprint original in sections and piece sections together.

972.382-014 PHOTOGRAPHER, LITHOGRAPHIC

Sets up and operates camera to photograph illustrations and printed material and produce film or glass negatives or positives used in the preparation of lithographic printing plates. Mounts material to be photographed on copy board and focuses camera to enlarge or reduce size of object in photograph. Selects and places screen over negative or positive to break up shadings in object for halftone printing. Places color filters over film to produce four-color separation, halftone separation, and process prints for multicolor printing. Focuses lens, adjusts lights, and exposes film to copy for specified period of time. Immerses film in series of chemical baths to develop image on film or mounts film in machine that automatically develops film. Hangs developed film on rack to dry. May prepare original layouts for halftone or color prints, utilizing copy-drawing, pasteup, stripping, or inking techniques.

972.664-010 LITHO-MAKE-READY ASSISTANT

Performs duties in preapprenticeship program to assist photographer, lithographic, stripper, photolithographic, lithographic platemaker, and other workers engaged in producing photolithographic printing plates. Performs duties, such as mixing chemicals, assisting in operation of photographic machines and equipment, hand and machine developing of film, preparing negatives and assisting in making photolithographic prints.

979.381-018 PASTE-UP COPY-CAMERA OPERATOR

Photographs prepared copy, develops negatives, and arranges and mounts illustrations and printed legends on paper according to artist's layout. Measures and marks paper according to artist's layout, customers' instructions, or Graphic Designer. Marks to determine position of illustrations and printed legend, using ruler and drafting instruments. Cuts illustrations, type matter, and various shapes or black construction paper from larger sheets, using knife or scissors, and fits material into allocated space or positions for spot emphasis and background. Prepares type headings to specified size and style, using bench-type photolettering machine. Photographs illustrations directly onto paper, reducing or enlarging image, using automatic focusing studio camera. Develops and fixes photographs and headings and drys them on heated drum drier. Draws in borders, blocks, leads, lines, outlines, and emphasis marks, using drafter's tools, pen, and ink. May mark order, copy, illustrations, and layout sheet with instructions. May operate keyboard of photocomposing perforator machine to copy data from manuscript onto tape. May set up and operate photocomposing machine to transfer data from tape onto film or photographic paper.

979.382-018 GRAPHIC ARTS TECHNICIAN

Reproduces and assembles graphic arts materials performing any combination of the following tasks. Operates machine to type master copies, such as stencils, tracings, direct plates, and photo-offsets in preparation for line copy reproduction. Operates offset-duplicating machine to reproduce single or multicolor copies of line, drawings, graphs, or similar materials. Sets up and operates various type cameras to produce plastic or paper plates and negatives for later use in preparation of aluminum plates for reproduction in offset lithographic process. Positions material to be photographed, focuses lens, adjusts light, and exposes film to copy for specified period of time. Mixes chemical solutions, according to formula, and immerses film in solutions to develop negatives. Positions developed negative under masking sheet in lighted box that allows viewer to see negative through masking sheet. Strips (cuts out) masking sheet according to size and/or shape of image to be printed. Opaques blemishes and errors on negative, using brush and chemicals. Places finished masked negative on aluminum plate, and exposes plate to negative under arc lamp to transfer image to plate, using vacuum frame. Applies chemicals to plate to develop transferred image to be printed. Tends machines that assemble pages of printed material in numerical sequence. Cuts forms, sews, and glues components to form books, using stapling, drilling, and binding machines. Maintains machinery and equipment in operating condition. May insert printed material to verify specified color and clarity of print, using lighted inspection table.

979.684-026 PRINT-SHOP HELPER

Assists workers engaged in setting type, operating printing presses, and making plates, performing any combination of following duties. Moves material and supplies to and from various work areas. Assists in making ready and adjusting presses for production runs. Keeps presses supplied with paper stock. Cleans presses, printing plates, and type setups after us. Covers dampening rolls with wool or felt. Counts set-ups after use. Covers dampening rolls with wool or felt. Cleans eletrotype shells prior to casting, and removes excess metal from edges or backs of cast printing plates, using metal trimming and shaving machines. Trims stereotype matrices to size and drys them between steam or flame-heated plates. Immerses cast plates in copper and chrome plating solutions. Nails wooden blocks to backs of prepared plates to bring plates to printing level. May set type by hand following copy.

979.684-034 SCREEN PRINTER

Prints lettering and designs on objects, such as posters, targets, instrument dials, furniture, glass and toys, using screen printed device. Positions object against guides on setup board or holding fixture of screening device and lowers screen. Pours paint into screen frame or dips squeegee in paint and draws squeegee across screen to transfer design to object. Cleans screen with solvent at end of run and when using different colors. May mix paints according to standard formulas. May affix decals to parts and assemblies, using roller. May examine printed object for defects.

EMPLOYABILITY SKILLS

In addition to the aptitudes, abilities, interests, physical requirements and job skills listed in the preceding Description of Occupation, employability skills exert a great deal of influence on a person's ability to get and keep a job. Surveys indicate that more people lose their jobs because of poor attitudes toward their job than for lack of job skills. For this reason it is important that information concerning the following employability skills be provided as an ongoing part of the program.

1. Getting a job
   a. Filling out job applications
   b. Developing a resume
   c. Preparing for a job interview

2. Keeping a job
   a. Be on time and regular in attendance
   b. Maintain a fair share of the work-load
   c. Work without supervision
   d. Meet production schedules
   e. Properly care for and use equipment
   f. Dress appropriately for the job
   g. Maintain good personal hygiene
   h. Develop and maintain good communication with supervisors and co-workers

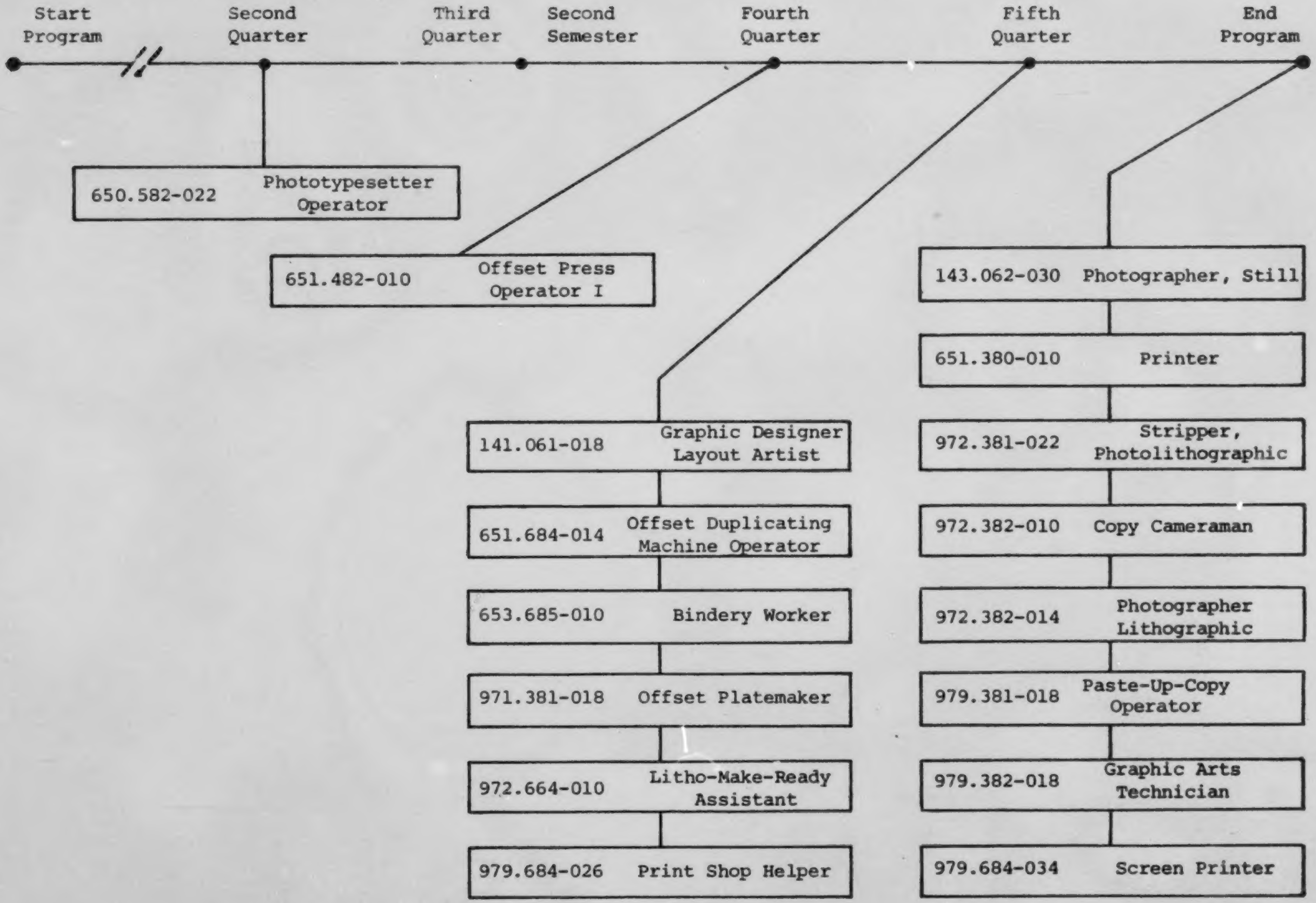
GRAPHIC ARTS EXIT POINTS

The diagram on the following page is based on the Suggested Course Outline Structure in Section IV. It illustrates the points in a Graphic Arts program where the student should have acquired the competencies necessary for entry level employment into the job classifications indicated. In many cases, by the time an exit point is reached, the student may have acquired several allied occupations competencies in addition to those required for the specific job classification.

This program is structured to prepare a student to become: Phototypesetter Operator; Offset Press Operator I; Graphic Designer Layout Artist; Offset-Duplicating Machine Operator; Bindery Worker; Offset Platemaker; Litho-Make-Ready Assistant; Print Shop Helper; Photographer, Still; Stripper, Photolithographic; Copy Cameraman; Photographer Lithographer; Paste-Up Copy Camera Operator; Graphic Arts Technician and Screen Printer. Every student, upon leaving a Graphic Arts vocational program, will have entry level skills in at least one of these occupations.

The Task Listings by D.O.T. Codes which follow the exit points diagram indicate the entry level skills (tasks) required for the student to be considered employable in a specified occupation. If the local program is individualized, it should be relatively easy to move a potential program leaver (drop out) into those skills (tasks) which would qualify the student for one of the listed occupations.

EXIT POINTS
Graphic Arts


Start Program
Second Quarter
Third Quarter
Second Semester
Fourth Quarter
Fifth Quarter
End Program
650.582-022 Phototypesetter Operator
651.482-010 Offset Press Operator I
141.061-018 Graphic Designer Layout Artist
651.684-014 Offset Duplicating Machine Operator
653.685-010 Bindery Worker
971.381-018 Offset Platemaker
972.664-010 Litho-Make-Ready Assistant
979.684-026 Print Shop Helper
143.062-030 Photographer, Still
651.380-010 Printer
972.381-022 Stripper, Photolithographic
972.382-010 Copy Cameraman
972.382-014 Photographer Lithographic
979.381-018 Paste-Up-Copy Operator
979.382-018 Graphic Arts Technician
979.684-034 Screen Printer

TASK LISTING BY D.O.T. CODE

The tasks are listed in this section in a matrix format that cross references them with the applicable D.O.T. codes for the exit point occupational titles. Each task is identified with one or more of the exit point occupational titles. This information may be used to make specific determination as to when a student has developed the necessary skills to quality for an exit point. This information is particularly useful in preparing early leavers to meet the requirements for a specific occupational title.

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

	DOT DESCRIPTION	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
TASK NO.	TASK NAME																
	Compentency A - Orientation																
A01	Identifying shop organization and maintenance procedures	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
A02	Identifying the origins of the printing industry	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
A03	Identifying the five major areas in graphic communications	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
A04	Identifying equipment used in graphic arts	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
A05	Identifying the six major print processes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
A06	Identifying the production cycle of a printed product	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
A07	Identifying legal restrictions on printing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

TASK NO.	TASK NAME	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
A08	Identifying careers in graphic communication	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Compentency B - Layout																
B01	Identifying the required knowledge, skills and abilities for people working in layout and design	X			X							X	X	X			X
B02	Identifying examples of work performed in layout and design	X			X							X	X	X			X
B03	Identifying design principles and fundamentals of layout	X			X							X	X	X			X
B04	Identifying basic drawing tools and their appli-																

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

TASK NO.	TASK NAME	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
	(04 continued)																
	cations in graphic arts	X			X							X	X	X			X
B05	Applying layout fundamentals	X			X							X	X	X			X
B06	Designing advertising layouts	X			X							X	X	X			X
B07	Computing enlargements and reductions for repro-																
	duction	X			X							X	X	X			X
B08	Identifying careers in layout	X			X							X	X	X			X
	Compentency C - Paste-Up																
C01	Identifying, cleaning and servicing the tools																
	and equipment used for camera-ready art				X							X	X	X			

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

TASK NO.	TASK NAME	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
C02	Preparing a general camera-ready copy				X							X	X	X			
C03	Pasting up camera-ready copy				X							X	X	X			
C04	Preparing line copy for reproduction				X							X	X	X			
C05	Preparing a halftone copy for reproduction				X							X	X	X			
C06	Preparing line and halftone copy for reproduction				X							X	X	X			
C07	Identifying preparation procedures for a multi-color copy				X							X	X	X			
	Compentency D - Composition (Typesetting)																
D01	Understanding and using the printer's point system	X		X	X									X		X	

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

TASK NO.	TASK NAME	Graphic Designer Layout Artist 141.061-018	Photographer, Still 143.062-030	Phototypesetter Operator 650.582-022	Printer 651.380-010	Offset Press Operator I 651.482-010	Offset-Duplicating Machine Operator 651.682-014	Bindery Worker 653.685-010	Offset Platemaker 971.381-018	Stripper, Photolithographic 972.381-022	Copy Cameraman 972.382-010	Photographer Lithographic 972.382-014	Litho-Make-Ready Assistant 972.664-010	Paste-Up Copy Camera Operator 979.381-018	Graphic Arts Technician 979.382-018	Print Shop Helper 979.684-026	Screen Printer 979.684-034
D02	Identifying methods of type composition for reproduction	X		X	X									X		X	
D03	Applying principles of copy fitting	X		X	X									X		X	
D04	Identifying and classifying type composition and equipment	X		X	X									X		X	
D05	Identifying image generation procedures	X		X	X									X		X	
D06	Identifying cold type composition	X		X	X									X		X	
D07	Identifying phototypesetting methods	X		X	X									X		X	
D08	Operating a photo composer	X		X	X									X		X	
D09	Operating the varityper headliner	X		X	X									X		X	
D10	Performing proof-reading operations	X		X	X									X		X	

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

	DOT DESCRIPTION	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
TASK NO.	TASK NAME																
	Compentency E - Design																
E01	Designing with type	X			X							X		X			X
E02	Identifying basic lettering procedures	X			X							X		X			X
E03	Rendering letter forms	X			X							X		X			X
E04	Performing image creation by technical illustration	X			X							X		X			X
E05	Designing and printing a resume	X			X							X		X			X
	Compentency F - Reproduction Photography																
F01	Identifying characteristics of film	X		X		X					X	X		X	X		

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

	DOT DESCRIPTION	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
TASK NO.	TASK NAME																
F02	Using sensitivity scales to develop line negatives	X		X		X					X	X		X	X		
F03	Predicting the effects of variables in processing	X			X		X				X	X		X	X		
F04	Demonstrating an understanding of the basic principles of line photography	X			X		X				X	X		X	X		
F05	Setting up the darkroom	X			X		X				X	X		X	X		
F06	Identifying the principles of the process camera	X			X		X				X	X		X	X		
F07	Identifying the basic parts of the process camera	X			X		X				X	X		X	X		
F08	Identifying basic process camera adjustments and movements	X			X		X				X	X		X	X		
F09	Using F-numbers to adjust exposure	X			X		X				X	X		X	X		

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

TASK NO.	TASK NAME	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
	DOT DESCRIPTION	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
F10	Determining camera settings for enlargements and reductions	X			X		X				X	X		X	X		
F11	Demonstrating and understanding the principle of image inversion and the process of focusing a process camera	X			X		X				X	X		X	X		
F12	Evaluating negatives	X			X		X				X	X		X	X		
F13	Producing a line negative	X			X		X				X	X		X	X		
F14	Producing enlarged and reduced negatives	X			X		X				X	X		X	X		
F15	Making a two-step reduction	X			X		X				X	X		X	X		
F16	Making a line negative from a continuous tone photograph	X			X		X				X	X		X	X		
F17	Demonstrating an understanding of fundamental																

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

	DOT DESCRIPTION	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
TASK NO.	TASK NAME																
	(17 continued)																
	principles of halftone photography	X			X		X				X	X		X	X		
F18	Determining density range of a halftone negative	X			X		X				X	X		X	X		
F19	Using the graphic arts exposure computer to																
	determine main and flash exposure	X			X		X				X	X		X	X		
F20	Producing a halftone negative and contact print	X			X		X				X	X		X	X		
F21	Evaluating halftone negatives	X			X		X				X	X		X	X		
F22	Making a negative from a line mechanical with																
	halftone paper points	X			X		X				X	X		X	X		
F23	Using advanced halftone photography techniques	X			X		X				X	X		X	X		
F24	Making halftones with kodalith autoscreen film	X			X		X				X	X		X	X		

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

TASK NO.	TASK NAME	Graphic Designer Layout Artist 141.061-018	Photographer, Still 143.062-030	Phototypesetter Operator 650.582-022	Printer 651.380-010	Offset Press Operator I 651.482-010	Offset-Duplicating Machine Operator 651.682-014	Bindery Worker 653.685-010	Offset Platemaker 971.381-018	Stripper, Photolithographic 972.381-022	Copy Cameraman 972.382-010	Photographer Lithographic 972.382-014	Litho-Make-Ready Assistant 972.664-010	Paste-Up Copy Camera Operator 979.381-018	Graphic Arts Technician 979.382-018	Print Shop Helper 979.684-026	Screen Printer 979.684-034
	Compentency G - Stripping																
G01	Demonstrating an understanding of basic principles of stripping and platemaking				X				X	X					X	X	
G02	Laying out and stripping a flat				X				X	X					X	X	
G03	Stripping a flat using screen tints				X				X	X					X	X	
G04	Stripping a flat with multiple registration				X				X	X					X	X	
G05	Laying out and stripping flats with line and halftone combinations				X				X	X					X	X	
G06	Using step and repeat technique to strip a multi-image flat				X				X	X					X	X	

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

	DOT DESCRIPTION	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
TASK NO.	TASK NAME																
	Compentency H - Platemaking																
H01	Identifying parts and controls of a flip-top platemaker				X	X	X		X	X					X	X	
H02	Identifying types of lithographic plates				X	X	X		X	X					X	X	
H03	Determining exposure and processing presensitized plates				X	X	X		X	X					X	X	
H04	Making plates				X	X	X		X	X					X	X	
H05	Preparing direct image masters				X	X	X		X	X					X	X	
H06	Using screen tints				X	X	X		X	X					X	X	
	Compentency I - Press																

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

TASK NO.	TASK NAME	Graphic Designer Layout Artist 141.061-018	Photographer, Still 143.062-030	Phototypesetter Operator 650.582-022	Printer 651.380-010	Offset Press Operator I 651.482-010	Offset-Duplicating Machine Operator 651.682-014	Bindery Worker 653.685-010	Offset Platemaker 971.381-018	Stripper, Photolithographic 972.381-022	Copy Cameraman 972.382-010	Photographer Lithographic 972.382-014	Litho-Make-Ready Assistant 972.664-010	Paste-Up Copy Camera Operator 979.381-018	Graphic Arts Technician 979.382-018	Print Shop Helper 979.684-026	Screen Printer 979.684-034
I01	Identifying major printing processes				X	X	X		X	X					X	X	
I02	Identifying basic methods of printing with plates				X	X	X		X	X					X	X	
I03	Identifying basic theory of offset printing				X	X	X		X	X					X	X	
I04	Identifying basic principles of offset reproduction				X	X	X		X	X					X	X	
I05	Identifying operating systems				X	X	X		X	X					X	X	
I06	Identifying the systems of the printing unit				X	X	X		X	X					X	X	
I07	Identifying inking system				X	X	X		X	X					X	X	
I08	Identifying the components of the damping system				X	X	X		X	X					X	X	
I09	Identifying the parts of the paper feeding, register and delivery systems				X	X	X		X	X					X	X	
I10	Operating the press				X	X	X		X	X					X	X	

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

TASK NO.	TASK NAME \ DOT DESCRIPTION / DOT NO.	Graphic Designer Layout Artist 141.061-018	Photographer, Still 143.062-030	Phototypesetter Operator 650.582-022	Printer 651.380-010	Offset Press Operator I 651.482-010	Offset-Duplicating Machine Operator 651.682-014	Bindery Worker 653.685-010	Offset Platemaker 971.381-018	Stripper, Photolithographic 972.381-022	Copy Cameraman 972.382-010	Photographer Lithographic 972.382-014	Litho-Make-Ready Assistant 972.664-010	Paste-Up Copy Camera Operator 979.381-018	Graphic Arts Technician 979.382-018	Print Shop Helper 979.684-026	Screen Printer 979.684-034
I11	Cleaning the press, day-to-day				X	X	X		X	X					X	X	
I12	Cleaning the press, long term				X	X	X		X	X					X	X	
I13	Troubleshooting moisture problems				X	X	X		X	X					X	X	
I14	Identifying problems related to registration adjustments				X	X	X		X	X					X	X	
I15	Identifying and selecting offset printing inks				X	X	X		X	X					X	X	
I16	Printing with ink other than black				X	X	X		X	X					X	X	
I17	Using a metal plate				X	X	X		X	X					X	X	
I18	Using an electrostatic plate				X	X	X		X	X					X	X	
I19	Testing roller pressure				X	X	X		X	X					X	X	
I20	Diagnosing problems related to blanket and blanket cylinder				X	X	X		X	X					X	X	

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

TASK NO.	TASK NAME	DOT DESCRIPTION / DOT NO.	Graphic Designer Layout Artist 141.061-018	Photographer, Still 143.062-030	Phototypesetter Operator 650.582-022	Printer 651.380-010	Offset Press Operator I 651.482-010	Offset-Duplicating Machine Operator 651.682-014	Bindery Worker 653.685-010	Offset Platemaker 971.381-018	Stripper, Photolithographic 972.381-022	Copy Cameraman 972.382-010	Photographer Lithographic 972.382-014	Litho-Make-Ready Assistant 972.664-010	Paste-Up Copy Camera Operator 979.381-018	Graphic Arts Technician 979.382-018	Print Shop Helper 979.684-026	Screen Printer 979.684-034
I21	Adjusting feed and delivery systems for 11" X 17" paper					X	X	X		X	X					X	X	
I22	Adjusting the press to print on 3¼" X 5" note-card					X	X	X		X	X					X	X	
I23	Adjusting feeding and delivery systems for 4" X 9½" legal envelopes					X	X	X		X	X					X	X	
I24	Printing both sides of a copy					X	X	X		X	X					X	X	
I25	Printing copies on 11" X 17" paper					X	X	X		X	X					X	X	
I26	Printing signatures					X	X	X		X	X					X	X	
	Compentency J - Bindery																	

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

	DOT DESCRIPTION	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
TASK NO.	TASK NAME																
J01	Identifying manufacturing process in paper-making and finishing				X			X							X		
J02	Determining special problems with paper felt side and wire side				X			X							X		
J03	Identifying paper grades and characteristics				X			X							X		
J04	Identifying paper grain direction				X			X							X		
J05	Identifying special problems with paper shrinking and stretching				X			X							X		
J06	Identifying types of paper				X			X							X		
J07	Diagnosing and correcting special problems with paper runability and print quality				X			X							X		
J08	Ordering paper				X			X							X		

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

	DOT DESCRIPTION	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
TASK NO.	TASK NAME																
J09	Identifying bindery methods and operations				X			X							X		
J10	Identifying bindery and finishing procedures				X			X							X		
J11	Identifying the systems approach to building occupational skills in bindery and finishing procedures				X			X							X		
J12	Identifying careers in bindery and finishing procedures				X			X							X		
J13	Identifying the procedures for papercutting				X			X							X		
J14	Cutting paper into standard press size				X			X							X		
J15	Cutting paper into six practical sizes				X			X							X		
J16	Cutting paper into eight practical sizes				X			X							X		
J17	Cutting paper into five practical sizes				X			X							X		

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

	DOT DESCRIPTION	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
TASK NO.	TASK NAME																
J18	Gathering, inserting and collating paper				X			X							X		
J19	Operating the folder				X			X							X		
J20	Identifying types of folders				X			X							X		
J21	Identifying types of folds used for printed documents				X			X							X		
J22	Scoring and slitting paper				X			X							X		
J23	Drilling paper				X			X							X		
J24	Padding and gluing paper				X			X							X		
J25	Stitching and stapling final products				X			X							X		
J26	Binding books through mechanical means				X			X							X		
	Compentency K - Job Planning																

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

		POSSIBLE EXIT POINTS															
	DOT DESCRIPTION	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operatof	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
TASK NO.	TASK NAME																
K01	Performing message analysis	X	X		X					X	X	X		X	X		X
K02	Identifying specifications for a printing job	X	X		X					X	X	X		X	X		X
	Compentency L - Silk Screen																
L01	Selecting a job and making a film positive																X
L02	Identifying printing done by silk screen process																X
L03	Identifying and using equipment and inks for hand method screen printing																X
L04	Identifying and using types of drying equipment and drying racks used in the hand-screen printing process																X

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

	DOT DESCRIPTION	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
TASK NO.	TASK NAME																
L05	Building a silk screen frame																X
L06	Stretching and cleaning silk																X
L07	Prepare and adhere a hand cut screen stencil																X
L08	Making a photographic screen																X
L09	Running a one-color photographic screen																X
L10	Running a one-color poster																X
L11	Screening on three dimensional objects																X
	Compentency M - Continuous Tone Photography																
M01	Identifying properties of light		X								X						
M02	Identifying characteristics of perspective		X								X						

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

TASK NO.	TASK NAME \ DOT DESCRIPTION	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
M03	Identifying the rules of composition		X								X						
M04	Identifying the basic parts of a camera		X								X						
M05	Identifying basic types of cameras		X								X						
M06	Using exposure controls		X								X						
M07	Identifying lenses and focusing procedures		X								X						
M08	Identifying the shutter and setting shutter speeds		X								X						
M09	Maintaining cameras and equipment		X								X						
M10	Loading 35mm film		X								X						
M11	Choosing camera accessories		X								X						
M12	Identifying characteristics of black and white film		X								X						

TASK LISTING BY DOT CODE

GRAPHIC ARTS/PRINTING

POSSIBLE EXIT POINTS

TASK NO.	TASK NAME	Graphic Designer Layout Artist	Photographer, Still	Phototypesetter Operator	Printer	Offset Press Operator I	Offset-Duplicating Machine Operator	Bindery Worker	Offset Platemaker	Stripper, Photolithographic	Copy Cameraman	Photographer Lithographic	Litho-Make-Ready Assistant	Paste-Up Copy Camera Operator	Graphic Arts Technician	Print Shop Helper	Screen Printer
	DOT NO.	141.061-018	143.062-030	650.582-022	651.380-010	651.482-010	651.682-014	653.685-010	971.381-018	972.381-022	972.382-010	972.382-014	972.664-010	979.381-018	979.382-018	979.684-026	979.684-034
M13	Determining exposure		X								X						
M14	Developing a roll of black and white film		X								X						
M15	Identifying printmaking process		X								X						
M16	Identifying the components of the enlarger		X								X						
M17	Making a print		X								X						
M18	Making photographs using natural and artificial light sources		X								X						
M19	Using special photographic techniques		X								X						
M20	Mounting and matting prints		X								X						

SECTION IV

CURRICULUM STRUCTURE & COURSE OUTLINE

CURRICULUM STRUCTURE

Following are three alternatives for structuring a graphic arts program. Each of these alternatives may be locally adopted or adapted to meet both the learner and operation conditions.

Alternative one presents a "complete" graphic arts program in a six quarters format. A student who successfully completes all competencies would be qualified for an entry level position in any of the identified occupations in Section III (See "Possible Exit Points.")

Alternative two utilizes the alternative one approach with the structure adjusted for a semester format.

Alternative three presents a matrix of sixteen occupations in the graphic arts field and their entry level competencies. Under each competency the number of hours for the related unit guides for each is entered. The last six columns on the right present: cumulative hours for unit guides, project and their totals; the decimal equivalent in semester and quarter format; and the D.O.T. Code for the occupation.

Both group and individualized curriculum materials may be adapted to any of these structures. The range of options is limited only the the practical constraints of staff, plant and equipment, learner pre-course skills and length of time the learner has available for completing required competencies. However, these are real constraints which will probably prevent an operational program for accomplishing all the activities structured within any given two-year time span. For this reason each operating program will ultimately become a "best fit" of resources to structure.

GRAPHIC ARTS CURRICULUM STRUCTURE

Alternative 1

Course Number	Course	Clock Hours
	First Quarter	
	Orientation	16
	Layout	30
	Paste-up	20
	Composition (Typesetting)	23
	Reproduction Photography	24
		113
	Second Quarter	
	Stripping	12
	Platemaking	18
	Press	40
	Paste-up	4
	Composition (Typesetting)	8
	Reproduction Photography	6
		88
	Third Quarter	
	Press	36
	Bindery	30
	Silkscreen	47
		113
	Fourth Quarter	
	Reproduction Photography	20
	Stripping	4
	Press	16
	Bindery	14

Design	16
Job Planning	6
Continuous Tone Photography	24
	100

Fifth Quarter

Continuous Tone Photography	32
Paste-up	8
Reproduction Photography	28
Stripping	4
Bindery	20
	92

Sixth Quarter

Design	10
Continuous Tone Photography	72
	82

GRAPHIC ARTS CURRICULUM STRUCTURE

Alternative 2

Course Number	Course	Clock Hours
	First Semester	
	Orientation	16
	Layout	30
	Paste-up	20
	Composition (Typesetting)	23
	Reproduction Photography	24
	Stripping	6
	Platemaking	12
	Press	40
		171
	Second Semester	
	Paste-up	4
	Composition (Typesetting)	8
	Reproduction Photography	6
	Stripping	6
	Platemaking	6
	Press	36
	Bindery	30
	Silkscreen	47
		143
	Third Semester	
	Reproduction Photography	20
	Stripping	4
	Press	16
	Bindery	14

Design	16
Job Planning	6
Continuous Tone Photography	56
	132

Fourth Semester

Paste-up	8
Reproduction Photography	28
Stripping	4
Bindery	20
Design	10
Continuous Tone Photography	72
	142

COURSE OUTLINE

In this section, a suggested course outline for both quarter and semester formats are presented. While the listing of tasks within each competency represents a difficulty scale moving from least to most, it does not indicate a required sequence nor implies that each is a necessary prerequisite to that which succeeds it. The sequence of unit guide presentation may be adapted to match student group(s), facilities, equipment and available time to the specific learning objective. The detailed information required to teach each competency is listed in the corresponding "task" numbered unit guide sheet in Section V of this curriculum guide.

The time estimates (hours) for completion of activities are expressed in minimums. Across the two year time frame, these estimates account for 82% of the available clock hours. The remaining 18% provides the flexibility needed to adapt to individual learner needs and/or schedule projects as are appropriate to the identified occupation(s).

Suggested Course Outline Structure for Graphic Arts

(Alternative 1)

Quarter I

Unit	Title	Hours
	Performance Group: Orientation	
A1	Identifying Shop Organization and Maintenance Procedures	2
A2	Identifying Origins of Printing Industry	1
A3	Identifying The Major Areas in Graphic Communications	2
A4	Identifying Equipment Used in Graphic Arts	2
A5	Identifying the Six Major Printing Processes	2
A6	Identifying Production Cycle of a Printed Product	2
A7	Identifying Legal Restrictions	3
A8	Identifying Careers in Graphic Communication	2
		16
	Performance Group: Layout	
B1	Identifying Knowledge, Skill and Abilities for People Working in Layout	2
B2	Identifying Examples of Work Performed in Layout	2
B3	Identifying Design Principles and Fundamentals of Layout	4
B4	Identifying Basic Drawing Tools and Their Applications in Graphic Arts	2
B5	Applying Layout Fundamentals	4
B6	Designing Advertising Layouts	8
B7	Computing Enlargements and Reductions for Reproduction	6
B8	Identifying Careers in Layout	2
		30
	Performance Group: Paste-Up	
C1	Identifying, Cleaning and Servicing the Tools and Equipment Used for Camera-Ready Art	2
C2	Preparing a General Camera-Ready Copy	8
C3	Pasting-Up Camera Ready Copy	4
C4	Preparing Line Copy for Reproduction	6
		20

Unit	Title	Hours
	Performance Group: Composition (Typesetting)	
D1	Understanding and Using the Printer's Point System	4
D2	Identifying Methods of Type Composition for Reproduction	2
D3	Applying Principles of Copy Fitting	4
D6	Identifying Cold Type Composition	2
D7	Identifying Photo Typesetting Methods	4
D8	Operating a Photo Composer	4
D9	Operating the Varityper Headliner	1
D10	Performing Proof-Reading Operations	2
		23
	Performance Group: Reproduction Photography	
F1	Identifying Characteristics of Film	2
F2	Using Sensitivity Scales to Develop Line Negatives	1
F3	Predicting the Effects of Variables in Processing	2
F4	Demonstrating and Understanding the Basic Principles of Line Photography	3
F5	Setting up the Darkroom	2
F6	Identifying the Principles of the Process Camera	1
F7	Identifying the Basic Parts of the Process Camera	1
F8	Identifying Basic Process Camera Adjustments and Movements	1
F9	Using F-Numbers to Adjust Exposure	2
F10	Determining Camera Settings for Enlargement and Reproduction	2
F11	Demonstrating and Understanding the Principle of Image Inversion and the Process of Focusing a Process Camera	2
F12	Evaluating Negatives	2
F13	Producing a Line Negative	2
F14	Producing Enlarged and Reduced Negatives	1
		24
	Quarter I Total Hours:	113

Unit	Title	Hours
	Performance Group: Paste-Up	
C5	Preparing a Halftone Copy for Reproduction Composition (Typesetting)	4
D4	Identifying and Classifying Type Composition and Equipment	2
D5	Identifying Image Generation Procedures	2
		8
	Performance Group: Reproduction Photography	
F16	Making a Line Negative from a Continuous Tone Photography	6
		6
	Quarter II Total Hours:	88

Quarter II

Unit	Title	Hours
	Performance Group: Stripping	
G1	Demonstrating an Understanding of Basic Principles of Stripping Platemaking	2
G2	Laying Out and Stripping a Flat	4
G3	Stripping a Flat Using Screen Tints	2
G6	Using Step and Repeat Techniques to Strip a Multi-Image Flat	4
		12
	Performance Group: Platemaking	
H1	Identifying Parts and Controls of a Flip-Top Platemaker	2
H2	Identifying Types of Lithographic Plates	2
H3	Determining Exposure and Processing Presensitized Plates	2
H4	Making Plates	2
H5	Preparing Direct Image Masters	4
H6	Using Screen Tints	6
		18
	Performance Group: Press	
I1	Identifying Major Printing Processes	2
I2	Identifying Basic Methods of Printing with Plates	2
I3	Identifying Basic Theory of Offset Printing	2
I4	Identifying Basic Principles of Offset Reproduction	6
I5	Identifying Operating Systems	2
I7	Identifying Inking Systems	2
I8	Identifying the Components of the Dampening System	2
I9	Identifying the Parts of the Paper Feeding, Register and Delivery Systems	4
I10	Operating the Press	10
I13	Troubleshooting Moisture Problems	2
I14	Identifying Problems Related to Registration Adjustments	4
I11	Performing Daily Clean-Up and Maintenance	2
		40
	Quarter II Total Hours:	110

Quarter III

Unit	Title	Hours
	Performance Group: Press	
I6	Identifying the Systems of a Printing Unit	2
I15	Identifying and Selecting Offset Printing Inks	2
I16	Printing with Inks Other Than Black	2
I17	Using a Metal Plate	4
I18	Using an Electrostatic Plate	4
I19	Testing Roller Pressure	4
I20	Diagnosing Problems Related to Blanket and Blanket Cylinder	2
I21	Adjusting Feed and Delivery Systems for 11" x 17" Paper	4
I22	Adjusting the Press to Print on 3-½" x 5" Notecard	4
I24	Printing Both Sides of a Copy	4
I12	Performing Major Clean-Up of an Offset Duplicator	4
		36
	Performance Group: Bindery	
J2	Determining Special Problems with Paper Felt Side and Wire Side	2
J3	Identifying Paper Grades and Characteristics	2
J4	Identifying Paper Grain Direction	1
J5	Identifying Special Problems with Paper Shrinking and Stretching	1
J6	Identifying Types of Paper	4
J7	Diagnosing and Correcting Special Problems with Paper Runability and Print Quality	4
J9	Identifying Bindery Methods and Operations	2
J10	Identifying Bindery and Finishing Procedures	2
J13	Identifying the Procedures for Papercutting	2
J14	Cutting Paper into Standard Press Sizes	1
J18	Gathering, Inserting and Collating Paper	1
J19	Operating the Folder	2
J20	Identifying Types of Folders	2
J21	Demonstrating the Types of Folds Used for Printed Documents	2
J24	Padding and Gluing Paper	1
J25	Stitching and Stapling Final Products	1
		30
	Performance Group: Silk Screen	
L1	Selecting a Job and Making a Film Positive	10
L2	Identifying Printing Done by Silk Screen Process	1

Unit	Title	Hours
L3	Identifying and Using Equipment and Inks for Hand Method Screen Printing	4
L4	Identifying and Using Types of Drying Equipment and Drying Racks Used in the Hand Screen Printing Process	1
L5	Building a Silk Screen Frame	8
L6	Stretching and Cleaning Silk	1
L7	Prepare and Adhere a Hand Cut Screen Stencil	2
L8	Making a Photographic Screen	6
L9	Running a One-Color Photographic Screen	4
L10	Running a One-Color Poster	4
L11	Screening on a 3-D Object	6
		47
	Quarter III Total Hours:	113

Quarter IV

Unit	Title	Hours
	Performance Group: Reproduction Photography	
F17	Demonstrating an Understanding of Fundamental Principles of Halftone Photography	4
F18	Determining Density Range of a Halftone Negative	4
F19	Using the Graphic Arts Exposure Computer to Determine Main and Flash Exposure	4
F21	Evaluating Halftone Negatives	2
F24	Making Halftones with Autoscreen Film	6
		20
	Performance Group: Stripping	
G4	Stripping a Flat with Multiple Registration	4
		4
	Performance Group: Press	
I23	Adjusting Feeding and Delivery Systems for 4" x 9½" Legal Envelopes	4
I25	Printing Copies on 11" x 17" Paper	6
I26	Printing Signatures	6
		16
	Performance Group: Bindery	
J1	Identifying Manufacturing Process in Papermaking and Finishing	4
J12	Identifying Careers in Bindery and Finishing Procedures	2
J22	Scoring and Slitting Paper	4
J23	Drilling Paper	4
		14
	Performance Group: Design	
E1	Designing with Type	4
E2	Identifying Basic Lettering Procedures	4
E3	Rendering Letter Forms	4
E4	Performing Image Creation by Technical Illustration	4
		16

Unit	Title	Hours
	Performance Group: Job Planning	
K1	Performing Message Analysis	2
K2	Identifying Specifications for a Printing Job	4
		6
	Performance Group: Continuous Tone Photography	
M1	Identifying Properties of Light	4
M4	Identifying the Basic Types of Cameras	6
M6	Using Exposure Controls	6
M8	Identifying the Shutter and Setting Shutter Speeds	8
		24
	Quarter IV Total Hours:	100

Quarter V

Unit	Title	Hours
	Performance Group: Continuous Tone Photography	
M10	Loading 35MM Film	4
M5	Identifying Basic Types of Cameras	8
M7	Identifying Lenses and Focusing Procedures	8
M11	Choosing Camera Accessories	8
M9	Maintaining Cameras and Equipment	4
		32
	Performance Group: Paste-Up	
C6	Preparing Line and Halftone Copy for Reproduction	2
C7	Identifying Preparation Procedures for a Multi-Color Copy	6
		8
	Performance Group: Reproduction Photography	
F15	Making a Two-Step Reduction	4
F20	Producing a Halftone Negative and Contact Print	4
F22	Making a Negative From a Line Mechanical with Halftone Paper Points	4
F23	Using Advanced Halftone Photography Techniques	16
		28
	Performance Group: Stripping	
G5	Laying Out and Stripping Flats with Line and Halftone Combinations	4
		4
	Performance Group: Bindery	
J8	Ordering Paper	4
J11	Identifying the Systems Approach to Building Occupational Skills in Bindery	4
J15	Cutting Paper into Six Practical Sizes	2
J16	Cutting Paper into Eight Practical Sizes	2
J17	Cutting Paper into Five Practical Sizes	2
J26	Binding Books Through Mechanical Means (Wire, Spiral and Plastic)	6
		20
	Quarter V Total Hours:	92

Quarter VI

Unit	Title	Hours
	Performance Group: Design	
E5	Designing and Printing a Resume	10
		10
	Performance Group: Continuous Tone Photography	
M2	Identifying Characteristics of Perspective	6
M3	Identifying the Rules of Composition	6
M12	Identifying Characteristics of Black and White Film	4
M13	Determining Exposure	4
M14	Developing a Roll of Black and White Film	8
M15	Identifying Print Making Process	4
M16	Identifying the Components of the Enlarger	4
M17	Making a Print	8
M18	Making Photographs Using Natural and Artificial Light Sources	8
M19	Using Special Photographic Techniques	8
M20	Mounting and Matting Prints	8
		68
	Quarter VI Total Hours:	78

Suggested Course Outline Structure for Graphic Arts

(Alternative 2)

Semester I

Unit	Title	Hours
	Performance Group: Orientation	
A1	Identifying Shop Organization and Maintenance Procedures	2
A2	Identifying Origins of Printing Industry	1
A3	Identifying the Major Areas in Graphic Communications	2
A4	Identifying Equipment Used in Graphic Arts	2
A5	Identifying the Six Major Printing Processes	2
A6	Identifying Production Cycle of a Printed Product	2
A7	Identifying Legal Restrictions	3
A8	Identifying Careers in Graphic Communication	2
		16
	Performance Group: Layout	
B1	Identifying Knowledge, Skill and Abilities for People Working in Layout	2
B2	Identifying Examples of Work Performed in Layout	2
B3	Identifying Design Principles and Fundamentals of Layout	4
B4	Identifying Basic Drawing Tools and Their Applications in Graphic Arts	2
B5	Applying Layout Fundamentals	4
B6	Designing Advertising Layouts	8
B7	Computing Enlargements and Reductions for Reproduction	6
B8	Identifying Careers in Layout	2
		30
	Performance Group: Paste-Up	
C1	Identifying, Cleaning and Servicing the Tools and Equipment Used for Camera-Ready Arts	2
C2	Preparing a General Camera-Ready Copy	8
C3	Pasting-Up Camera-Ready Copy	4
C4	Preparing Line Copy for Reproduction	6
		20
	Performance Group: Composition (Typesetting)	
D1	Understanding and Using the Printer's Point System	4

Unit	Title	Hours
D2	Identifying Methods of Type Composition for Reproduction	2
D3	Applying Principles of Copy Fitting	4
D6	Identifying Cold Type Composition	2
D7	Identifying Photo Typesetting Methods	4
D8	Operating a Photo Composer	4
D9	Operating the Varityper Headliner	1
D10	Performing Proof-Reading Operations	2
		23
	Performance Group: Reproduction Photography	
F1	Identifying Characteristics of Film	2
F2	Using Sensitivity Scales to Develop Line Negatives	1
F3	Predicting the Effects of Variables in Processing	2
F4	Demonstrating and Understanding of the Basic Principles of Line Photography	3
F5	Setting Up the Darkroom	2
F6	Identifying the Principles of the Process Camera	1
F7	Identifying the Basic Parts of the Process Camera	1
F8	Identifying Basic Process Camera Adjustments and Movements	1
F9	Using F-Numbers to Adjust Exposure	2
F10	Determining Camera Settings for Enlargement and Reduction	2
F11	Demonstrating an Understanding of the Principle of Image Inversion and the Process of Focusing a Process Camera	2
F12	Evaluating Negatives	2
F13	Producing a Line Negative	2
F14	Producing Enlarged and Reduced Negatives	1
		24
	Performance Group: Stripping	
G1	Demonstrating an Understanding of Basic Principles of Stripping and Platemaking	2
G2	Laying Out and Stripping a Flat	4
		6
	Performance Group: Platemaking	
H1	Identifying Parts and Controls of a Flip-Top Platemaker	2
H2	Identifying Types of Lithographic Plates	2
H3	Determining Exposure and Processing Presensitized Plates	2
H4	Making Plates	2
H5	Preparing Direct Image Masters	4
		12

Unit	Title	Hours
	Performance Group: Press	
I1	Identifying Major Printing Processes	2
I2	Identifying Basic Methods of Printing with Plates	2
I3	Identifying Basic Theory of Offset Printing	2
I4	Identifying Basic Principles of Offset Reproduction	6
I5	Identifying Operating Systems	2
I7	Identifying Inking Systems	2
I8	Identifying the Components of the Dampening System	2
I9	Identifying the Parts of the Paper Feeding, Register and Delivery Systems	4
I10	Operating the Press	10
I13	Troubleshooting Moisture Problems	2
I14	Identifying Problems Related to Registration Adjustments	4
I11	Performing Daily Clean-Up and Maintenance	2
		40
	Semester I Total Hours:	171

Unit	Title	Hours
J6	Identifying Types of Paper	4
J7	Diagnosing and Correcting Special Problems with Paper Runability and Print Quality	4
J9	Identifying Bindery Methods and Operations	2
J10	Identifying Bindery and Finishing Procedures	2
J13	Identifying the Procedures for Papercutting	2
J14	Cutting Paper Into Standard Press Sizes	1
J18	Gathering, Inserting and Collating Paper	1
J19	Operating the Folder	2
J20	Identifying Types of Folders	2
J21	Demonstrate the Types of Folds Used for Printed Documents	2
J24	Padding and Gluing Paper	1
J25	Stitching and Stapling Final Products	1
		30
	Performance Group: Silk Screen	
L1	Selecting a Job and Making a Film Positive	10
L2	Identifying Printing Done by Silk Screen Process	1
L3	Identifying and Using Equipment and Inks for Hand Method Screen Printing	4
L4	Identifying and Using Types of Drying Equipment and Drying Racks Used in the Hand Screen Printing Process	1
L5	Building a Silk Screen Frame	8
L6	Stretching and Cleaning Silk	1
L7	Prepare and Adhere a Hand Cut Screen Stencil	2
L8	Making a Photographic Screen	6
L9	Running a One-Color Photographic Screen	4
L10	Running a One-Color Poster	4
L11	Screening on a 3-D Object	6
		47
	Semester II Total Hours:	139

Semester II

Unit	Title	Hours
	Performance Group: Paste-Up	
C5	Preparing a Halftone Copy for Reproduction Composition (Typesetting)	4
D4	Identifying and Classifying Type Composition and Equipment	2
D5	Identifying Image Generation Procedures	2
		8
	Performance Group: Reproduction Photography	
F16	Making a Line Negative From a Continuous Tone Photograph	6
		6
	Performance Group: Stripping	
G3	Stripping a Flat Using Screen Tints	2
G6	Using Step and Repeat Techniques to Strip a Multi-Image Flat	4
		6
	Performance Group: Platemaking	
H6	Using Screen Tints	6
		6
	Performance Group: Press	
I6	Identifying the Systems of a Printing Unit	2
I15	Identifying and Selecting Offset Printing Inks	2
I16	Printing With Inks Other Than Black	2
I17	Using a Metal Plate	4
I18	Using an Electrostatic Plate	4
I19	Testing Roller Pressure	4
I20	Diagnosing Problems Related to Blanket and Blanket Cylinder	2
I21	Adjusting Feed and Delivery Systems for 11" X 17" Paper	4
I22	Adjusting the Press to Print on 3½" X 5" Notecard	4
I24	Printing Both Sides of a Copy	4
I12	Performing Major Clean-Up of an Offset Duplicator	4
		36
	Performance Group: Binding	
J2	Determining Special Problems with Paper Felt Side and Wire Side	2
J3	Identifying Paper Grades and Characteristics	2
J4	Identifying Paper Grain Direction	1
J5	Identifying Special Problems with Paper Shrinking and Stretching	1

Semester III

Unit	Title	Hours
	Performance Group: Reproduction Photography	
F17	Demonstrating an Understanding of Fundamental Principles of Halftone Photography	4
F18	Determining Density Range of a Halftone Negative	4
F19	Using the Graphic Arts Exposure Computer to Determine Main and Flash Exposure	4
F21	Evaluating Halftone Negatives	2
F24	Making Halftones with Autoscreen Film	6
		20
	Performance Group: Stripping	
G4	Stripping a Flat with Multiple Registration	4
		4
	Performance Group: Press	
I23	Adjusting Feeding and Delivery Systems for 4" x 9½" Legal Envelopes	4
I25	Printing Copies on 11" x 17" Paper	6
I26	Printing Signatures	6
		16
	Performance Group: Bindery	
J1	Identifying Manufacturing Process in Papermaking and Finishing	4
J12	Identifying Careers in Bindery and Finishing Procedures	2
		6
	Performance Group: Design	
E1	Designing with Type	4
E2	Identifying Basic Lettering Procedures	4
E3	Rendering Letter Forms	4
E4	Performing Image Creation by Technical Illustration	4
		16
	Performance Group: Bindery	
J22	Scoring and Slitting Paper	4
J23	Drilling Paper	4
		8

Unit	Title	Hours
	Performance Group: Job Planning	
K1	Performing Message Analysis	2
K2	Identifying Specifications for a Printing Job	4
		6
	Performance Group: Continuous Tone Photography	
M1	Identifying Properties of Light	4
M4	Identifying the Basic Parts of a Camera	6
M6	Using Exposure Controls	6
M8	Identifying the Shutter and Setting Shutter Speeds	8
M10	Loading 35mm Film	4
M5	Identifying Basic Types of Cameras	8
M7	Identifying Lenses and Focusing Procedures	8
M11	Choosing Camera Accessories	8
M9	Maintaining Cameras and Equipment	4
		56
	Semester III Total Hours:	132

Semester IV

Unit	Title	Hours
	Performance Group: Paste-Up	
C6	Preparing Line and Halftone Copy for Reproduction	2
C7	Identifying Preparation Procedures for a Multi-Color Copy	6
		8
	Performance Group: Reproduction Photography	
F15	Making a Two-Step Reduction	4
F20	Producing a Halftone Negative and Contact Print	4
F22	Making a Negative From a Line Mechanical with Halftone Paper Points	4
F23	Using Advanced Halftone Photography Techniques	16
		28
	Performance Group: Stripping	
G5	Laying Out and Stripping Flats with Line and Halftone Combinations	4
		4
	Performance Group: Bindery	
J8	Ordering Paper	4
J11	Identifying the Systems Approach to Building Occupational Skills in Bindery	4
J15	Cutting Paper Into Six Practical Sizes	2
J16	Cutting Paper Into Eight Practical Sizes	2
J17	Cutting Paper Into Five Practical Sizes	2
J26	Building Books Through Mechanical Means (Wire, Spiral and Plastic)	6
		20
	Performance Group: Design	
E5	Designing and Printing a Resume	10
		10
	Performance Group: Continuous Tone Photography	
M2	Identifying Characteristics of Perspective	6
M3	Identifying the Rules of Composition	6
M12	Identifying Characteristics of Black and White Film	4
M13	Determining Exposure	4
M14	Developing a Roll of Black and White Film	8
M15	Identifying Print Making Process	4
M16	Identifying the Components of the Enlarger	4
M17	Making a Print	8

Unit	Title	Hours
M18	Making Photographs Using Natural and Artificial Light Sources	8
M19	Using Special Photographic Techniques	8
M20	Mounting and Matting Prints	8
		68
	Semester IV Total Hours:	138

GRAPHIC ART CURRICULUM STRUCTURE

(ALTERNATIVE 3)

	Orientation	Layout	Paste-up	Composition (Typesetting)	Design	Repro. Photography	Stripping	Platemaking	Press	Bindery	Job Planning	Silk Screen	Cont. Tone Photo.	UNIT GUIDES	PROJECTS	TOTAL			
DOT DESCRIPTIONS	A	B	C	D	E	F	G	H	I	J	K	L	M	CUM.	HRS.		SEM.	QTR.	DOT NO.
Graphic Designer Layout Artist	16	30		31	26	78					6			187	41	228	1.3	2	141.061-018
Photographer, Still	16										6		128	150	33	183	1	1.5	143.062-030
Phototypesetter Operator	16			31										47	10	57	.33	.50	650.582-022
Printer	16	30	32	31	26	78	20	18	92	64	6			460	100	560	3.1	4.7	651.380-010
Offset Press Operator I	16							18	92					126	28	154	.86	1.3	651.482-010
Offset-Duplicating Machine Operator	16					78		18	92					204	45	249	1.4	2.1	651.682-014
Bindery Worker	16									64				80	18	98	.55	.82	653.685-010
Offset Platemaker	16						20	18						54	12	66	.37	.55	971.381-018
Stripper Photolithographic	16						20	18			6			60	14	74	.42	.62	972.381-022
Copy Cameraman	16					78					6		128	228	50	278	1.6	2.4	972.382-010
Photographer Lithographic	16	30	32		26	78					6		128	316	70	386	2.2	3.3	972.382-014
Litho-Make Ready Assistant	16	30	32											78	18	96	.54	.80	972.664-010
Paste-Up Copy Camera Operator	16	30	32	31	26	78					6			219	48	267	1.5	2.3	979.381-018
Graphic Arts Technician	16					78	20	18		64	6			202	45	247	1.4	2.1	979.382-018
Print Shop Helper	16			31			20	18	92					177	39	216	1.2	1.8	979.684-026
Screen Printer	16	30			26						6	47		125	28	153	.85	1.3	979.684-034

SECTION V

UNIT GUIDES

UNIT GUIDES

Description

In this section the tasks to be taught in each course are presented by competencies. Within a competency each task is listed on a separate page so that it may be taken out of the guide for inclusion with the teacher's lesson plan or the guide sequence changed to fit the individual teacher's own preference for teaching order. The task pages may be used for planning and executing group or individualized instruction. The sections of each UNIT GUIDE present the following information.

TASK: A concise statement of the task to be taught.

PERFORMANCE OBJECTIVE: The performance expected of the student after completing the unit. The objective is stated in stem form without a specific mention of: conditions, equipment or performance standard (which are given in the Evaluation section).

INSTRUCTIONAL ACTIVITIES: Suggested learning activities providing information, demonstration, use of audio-visuals and practical applications are provided.

INSTRUCTIONAL MATERIALS: Materials that are necessary to carry out the instructional activities; for example, instructional units, textbooks, audio-visuals and support equipment. The order of listing does not imply preference nor should it be considered as a complete listing of all materials related to the specific task.

CLASSROOM HOURS: The estimated clock hours required for completion of instructional activities and evaluation. This time estimate is a "best fit" and the actual time needed to complete the unit depends upon local conditions.

EVALUATION: This section contains a criterion referenced measure (where appropriate) and reference to any test items or other evaluation measures that are available to the teacher. The criterion referenced measure contains three parts--Condition, Performance and Standard.

TASK

A1 Identifying shop maintenance and procedures

PERFORMANCE OBJECTIVE

Identify and describe shop organization and regulations, lab cleanup procedures and equipment maintenance.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Personnel organization for class, print shop lab
b. Assignments for class
   1. Personnel/duties
   2. Clean-up procedures
   3. Classroom area
   4. Study area
   5. Tool room
   6. Art and production area
   7. Printing and bindery area
   8. Darkroom and process camera area
c. Shop safety

Provide Demonstration On:

Shop organization and maintenance procedures (field trip)

INSTRUCTIONAL MATERIALS

A/Vs:

PICA, "Safety in Graphic Communications"

Student Manuals:

Georgia, Units SE and S-2

CLASSROOM HOURS 2

EVALUATION (A1)

Given an overview of classroom/lab organization, the student will identify the individual assignments, shop organization and safety procedures according to the instructor's specifications.

TASK

A2 Identifying the origins of the printing industry

PERFORMANCE OBJECTIVE

Describe the origins of the printing industry.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Communications (definition)
b. Simple forms of communications
c. The Egyptians - papyrus
d. Modern communications
e. Purpose of communicated messages

INSTRUCTIONAL MATERIALS

Textbooks:	Student Manuals:
Broekhuizen	Georgia, Unit HSLR-1

CLASSROOM HOURS 1

EVALUATION (A2)

Given an overview of the history and purpose of graphic communications, the student will describe the basic origins and purpose of the printing industry according to the instructor's specifications.

TASK

A3 Identifying the major areas in graphic communications

PERFORMANCE OBJECTIVE

Identify key parts of the five major areas of graphic communications.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Size of graphic communications industry
b. Five major areas of the industry
    1. Design and planning
    2. Photography and platemaking
    3. Reproduction and mass production
    4.. Bindery and distribution
    5. Management and supervision

Provide Demonstration On:

Orientation to the graphic arts lab

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

A/Vs:

a. PICA, "Orientation to Graphic Communications Industries"
b. PICA, "The American Printer"

Student Manuals:

Georgia, Unit IEGD-5

CLASSROOM HOURS

2

EVALUATION (A3)

Given an overview of the graphic communications industry, the student will name and describe the five major areas of the industry and the functions of each.

TASK

A4 Identifying equipment used in graphic arts

PERFORMANCE OBJECTIVE

Identify and describe equipment used in the graphic arts industry.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

Equipment used in five major areas of graphic communications

Provide Demonstration On:

Visits to local print shops to view equipment operation

Provide Practical Application On:

Obtain literature from manufacturers. Build an equipment notebook.

INSTRUCTIONAL MATERIALS

A/Vs:

Prentice-Hall Media, "The Small Print Shop"

Student Manuals:

Georgia, Unit E and S-1

CLASSROOM HOURS 2

EVALUATION (A4)

Given an overview of equipment used in the graphic arts industry, the student will identify types of equipment used in the five major areas of graphic arts.

TASK

A5 Identifying the six major printing processes

PERFORMANCE OBJECTIVE

Identify the six major printing processes in graphic arts.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Transfer of image by
    1. Relief
    2. Planograhic
    3. Intaglio
    4. Stencil
    5. Photographic
    6. Electrostatic
b. Image carrier for each process
c. Characteristics of printed products for each process

Provide Practical Application On:

Match image carrier to product and describe the process.

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

Student Manuals:

Georgia, Unit SOG-1

Equipment:

Samples of various printed products, various processes, image carriers for each

CLASSROOM HOURS

2

EVALUATION (A5)

Given samples of printed products and related image carriers, the student will match the image carrier to the correct product and name and describe the process which was used.

TASK

A6 Identifying the production cycle of a printed product

PERFORMANCE OBJECTIVE

Identify and describe the steps and procedures used in the production of a printed product.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Stages of work
    1. Design
    2. Image generation
    3. Preproduction and production
    4. Finishing, binding, packaging
b. Analysis of design
c. Image generation
    1. Hot composition
    2. Cold composition
d. Pre-production and production-six commonly used printing processes
e. Finishing, binding, packaging-nature and purpose of printed materials

INSTRUCTIONAL MATERIALS

Textbooks:	Student Manuals:
Broekhuizen	Georgia, Unit SOG-2

CLASSROOM HOURS

2

EVALUATION (A6)

Given an overview of the stages of work in the production of a printed product, the student will name the stages of the cycle and describe the work performed in each.

TASK

A7 Identifying legal restrictions on printing

PERFORMANCE OBJECTIVE

Identify legal restrictions on printing versus freedom of the press.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Copyright - Federal Copyright Act
b. Obtaining a copyright
c. Copyright claims
d. Statuatory copyright for a published work
e. Copyright notice
f. Copyright infringement
g. Pornography
h. Counterfeiting penalties
i. Moral and ethical considerations
j. Freedom of the press

INSTRUCTIONAL MATERIALS

Textbooks:	Student Manuals:
Dennis and Jenkins	Georgia, Unit HSLR-3

CLASSROOM HOURS

3

EVALUATION (A7)

Given an overview of the legal restrictions on printing, the student will identify these restrictions and contrast them to freedom of the press.

TASK

A8 Identifying careers in graphic communications

PERFORMANCE OBJECTIVE

Identify occupations in graphic arts and give a brief job description for each.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Choosing a career
b. Careers in design
c. Careers in the office
    1. Ad writers
    2. Technical writers
    3. Clerical people
d. Careers in sales
e. Careers in production
f. Careers in research and development

INSTRUCTIONAL MATERIALS

Textbooks:	Student Manuals:
Broekhuizen	Georgia, Unit SOG-3

A/Vs:

PICA, "Careers in Graphic Communications"

CLASSROOM HOURS 2

EVALUATION (A8)

Given an overview of careers in graphic arts, the student will identify career opportunities in each of the areas of production in a print shop and give a brief, accurate job description for each.

TASK

B1 Identifying knowledge, skills and abilities for people working in layout

PERFORMANCE OBJECTIVE

Identify and describe the knowledge, skills and abilities required for work in layout.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Devices for communication (senses)
   1. Talking
   2. Listening
   3. Seeing
   4. Touching
   5. Smelling

b. Brief history of communication

c. Layout skills
   1. Typographic specifications
   2. Typographic art
   3. Printers system of measurement
   4. Copy fitting
   5. Design principles
   6. Preparation of artwork for photo-conversion

Provide Practical Application On:

Make a chart and list knowledge, skills and abilities for layout person and composition technician.

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit LC-3

CLASSROOM HOURS 3

EVALUATION (B1)

Given necessary information, the student will demonstrate an understanding of the knowledge, skills and abilities required for a layout person and a design technician by accurately listing these for each occupation.

TASK

B2 Identifying examples of work performed in layout

PERFORMANCE OBJECTIVE

Identify and describe examples of work performed in layout.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Principles of effective communication
  1. Attracting attention
  2. Easily read and understood
  3. Lasting impression

b. Function

c. Logo-type Symbol

d. Examples of printed communications

e. Analyzing graphic arts products
  1. Purpose
  2. Type face
  3. Effectiveness of type face
  4. Ink
  5. Paper stock

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

a. Georgia, Unit LC-2

b. PICA, Basic Layout Preparation

A/Vs:

PICA, "Basic Layout Preparation"

CLASSROOM HOURS

2

EVALUATION (B2)

Given examples of graphic arts products, the student will identify and describe the factors which do/do not make the material effective in terms of layout and design principles.

TASK

B3 Identifying principles and fundamentals of layout

PERFORMANCE OBJECTIVE

Identify the utility of using basic principles and fundamentals of layout.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Define layout
b. Stages of layout
c. Values of good planning in layout
d. Pre-layout planning
e. Layout procedure

INSTRUCTIONAL MATERIALS

Textbooks:	Student Manuals:
Dennis and Jenkins	Georgia, Units A and I-2

A/Vs:

PICA, "Design Principles"

CLASSROOM HOURS 4

EVALUATION (B3)

Given an overview of design principles and fundamentals of layout, the student will identify the importance of planning design and layout in the graphic arts industry.

TASK

B4 Identifying basic drawing tools and their applications in graphic arts

PERFORMANCE OBJECTIVE

Identify basic drawing tools and describe their uses in graphic arts.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Layout
  1. Thumb-nail sketches
  2. Rough layouts
  3. Comprehensive layouts
  4. Mechanical layouts

b. Tools and their uses
  1. Pencils
  2. T-square
  3. Triangles
  4. Erasers
  5. Rules
  6. Drafting instruments
  7. Type specimen book
  8. Printing ink selection book
  9. Rules, scales
  10. Proportional scale

c. Drawings
  1. Lines; horizontal, vertical, angles
  2. Arcs and circles

Provide Demonstration On:

Setting up a drafting table for work

Provide Practical Application On:

Practice using drafting tools to draw several simple contructions.

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Units A and I-1

Equipment:

1. Pencils
2. T-square
3. Triangles
4. Erasers
5. Rules
6. Drafting instruments
7. Type specimen book

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CLASSROOM HOURS

2

EVALUATION (B4)

Given a set of basic drawing tools, the student will prepare a series of simple drawings, accurately naming the tools used and the application of the tools as used in graphic arts.

INSTRUCTIONAL MATERIALS

Equipment:

8. Printing ink selection book
9. Rules, scales
10. Proportional scale

TASK

B5 Applying layout fundamentals

PERFORMANCE OBJECTIVE

Prepare a layout using correct procedure.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Layouts
   1. Thumb-nail sketches
   2. Rough layouts
   3. Comprehensive layout
   4. Mechanical layouts

b. Basic drafting equipment
   1. Drawing board
   2. T-square
   3. Triangles
   4. Drafting instruments
   5. Colored pencils
   6. Erasers
   7. Scale or ruler
   8. Printer's line guage

c. Other drafting equipment
   1. Air brush
   2. Markers
   3. Colored papers
   4. Copy fitting table
   5. Type specimen book
   6. Ink charts
   7. Preportional scale

d. Preparing a comprehensive layout
   1. Overlays
   2. Registration marks
   3. Drawing horizontals and verticals
   4. Drawing angular lines
   5. Drawing arcs and circles

e. The prototype

continued on back

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

A/Vs:

a. PICA, "Basic Layout Preparation"
b. PICA, "Measurement in the Graphic Arts Industry"
c. PICA, "Progressive Steps of a Layout"

Student Manuals:

a. Georgia, Unit JPL-3
b. PICA, Basic Layout Preparation

Equipment:

continued on back

CLASSROOM HOURS 4

EVALUATION (B5)

Given specifications, materials and supplies the student will follow correct procedure to prepare a comprehensive layout for a job. The instructor will check the student's final product for accuracy.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

f. Copy fitting
   1. Average character count
   2. Actual character count
   3. Determining number of lines
g. Computing enlargements and reductions, proportional scale
h. Multi-page layout, folding dummy
i. Mechanical layout, final paste-up

Provide Practical Application On:

Develop a comprehensive layout.

INSTRUCTIONAL MATERIALS

Tools and Equipment:

a. Drafting equipment
b. Drafting media
c. Headliner
d. Paper (colored and white)
e. Typewriter
f. Type specimen book
g. Ink charts
h. Copy fitting table

TASK

B6 Designing advertising layouts

PERFORMANCE OBJECTIVE

Design advertising layouts using the correct procedure.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. The field of advertising design
b. Parts of an advertising layout
    1. Headline
    2. Sub-headlines
    3. Body or text
    4. Illustrations or photograph
    5. Logotype
    6. Signature
c. The mechanics of layout
d. Importance of design
e. Lettering and type
f. Color

Provide Practical Application On:

a. Collect several ad layouts from magazines and analyze in terms of the sic parts of an ad layout
b. Design a series of ads from thumbnail sketches incorporative principles of:
    1. Message analysis
    2. Design principles
    3. Layout fundamentals
    4. Copy fitting

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit JPL-5

Equipment:

a. Magazines
b. Thumb-nail sketches
c. Drafting equipment and supplies
d. Headliner
e. Paper (colored and white)

CLASSROOM HOURS 8

EVALUATION (B6)

a. Given a thumb-nail sketch and appropriate materials and equipment, the student will correctly prepare several advertising layouts and demonstrate the principles of message analysis, design, layout and copy fitting.

b. Given several examples of advertising layouts in magazines, the student will analyze the ads in terms of the six basic parts of an advertising layout.

TASK

B7 Computing enlargements and reductions for reproduction

PERFORMANCE OBJECTIVE

Correctly compute enlargements and reductions for reproduction.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Copy considerations
    1. Size of the copy
    2. Protecting the copy
    3. Checking the final copy
b. Cropping
    1. Selecting area to crop
    2. Making crop marks
c. Scaling copy
    1. Preparation and rule method
    2. Mathematical formula
    3. Diagonal line technique
d. Specifying enlargements or reduction size
e. Register marks

Provide Demonstration On:

a. Using the proportional scale
b. Using the diagonal line method

Provide Practical Application On:

a. Use the proportional scale to compute various enlargements and reductions.
b. Use the diagonal line method.

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

Student Manuals:

Georgia, Unit PA-2

Equipment:

a. Proportional scale
b. Drawing board, T-square, triangles, pencils, pen, tape

CLASSROOM HOURS 6

EVALUATION (B7)

a. Given appropriate tools, supplies, equipment and specifications, the student will compute various enlargements and reductions using the proportional scale. The instructor will check the student's work for accuracy.

b. Given appropriate tools, supplies, equipment and specifications, the student will compute various enlargements and reductions concerning the diagonal line method. The instructor will check the student's work for accuracy.

TASK

B8 Identifying careers in layout

PERFORMANCE OBJECTIVE

Identify and describe careers available in layout and composition for graphics.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Making career choices
b. Factors fundamental to occupations
    1. Job classification
    2. Type of work performed
    3. Required knowledge, skills, abilities
c. Job classifications for layout and design
    1. Layout assistant
    2. Layout and production I
    3. Layout and production II
    4. Layout designer
    5. Designer illustrator
    6. Art director
    7. Senior art director
    8. Creative director
    9. Vice president creative
    10. Owner-president-manager

Provide Practical Application On:

Draw an organization chart of a layout and design department.

continued on back

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit LC-1

CLASSROOM HOURS

2

EVALUATION (B8)

Given necessary information, the student will identify and describe careers in layout and design.

TASK

C1 Identifying, cleaning and servicing the tools and equipment used for camera-ready art

PERFORMANCE OBJECTIVE

Identify the tools and equipment used in the production of camera-ready copy.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Copy
   1. Type matter
   2. Illustrations
b. Background for copy
   1. White paper or board
   2. Color additives
   3. Weight and surface of background
   4. Layout sheets
c. Drawing equipment
   1. Drawing boards
   2. T-squares and triangles
   3. Drawing instruments
   4. Rules and scales
   5. Drawing curves
   6. Pencils, inking pens, ruling pens
   7. Paint brushes
d. Air brushes and air eraser
e. Tape, waxing machine, rubber cement
f. Other copy preparation tools
   1. Paints
   2. Charcoal
   3. Chalk
   4. Masking film
   5. Knives
g. Cleaning and servicing equipment used in layout

Provide Practical Application On:

Identify tools and equipment used in copy preparation in the lab.

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

Student Manuals:

Georgia, Unit PA-1

Equipment:

Assortment of tools, equipment and supplies used in preparing copy

CLASSROOM HOURS 2

EVALUATION (C1)

Given samples of tools and equipment used for copy preparation, the student will correctly identify the tool by name and describe its use.

INSTRUCTIONAL ACTIVITIES

Provide Practical Application On:

Identify tools and equipment used in copy preparation in the lab.

TASK

C2 Preparing a general camera-ready copy

PERFORMANCE OBJECTIVE

Follow the correct procedure for the preparation of a camera-ready copy.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Paste-up
b. Determining the size of the base
   1. Smaller
   2. Same size
   3. Larger
c. Securing the elements for the paste-up
   1. Type material
   2. Drawings
   3. Pre-screened photos
d. Treatment of photographs on copy
   1. Photographed separately from line copy
   2. Block method (windows)
   3. Outline method
   4. Halftone print method
e. Attaching the elements
   1. Waxing
   2. Taping
   3. Cementing
f. Four types of copy
   1. Line
   2. Halftone
   3. Line and halftone
   4. Color
g. Sort and reclaim camera-ready artwork
h. File artwork and maintain records

continued on back

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

A/Vs:

a. PICA, "Preparing Paste-Up"
b. PICA, "Paste-Up Using Overlap"
c. PICA, "Hand Composition"
d. PICA "Basic Paste-Up for a 4-page Signature"

Student Manuals:

a. Georgia, Unit PA-3
b. PICA, Preparing Paste-Up, Paste-Up Using Overlap, Hand Composition and Basic Paste-Up for a 4-Page Signature

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CLASSROOM HOURS 8

EVALUATION (C2)

Given appropriate materials, equipment, supplies and specifications, the student will prepare a camera-ready copy following correct procedures.

INSTRUCTIONAL ACTIVITIES

Provide Practical Application On:

Paste-up a camera-ready copy from specifications for size and design.

Equipment:

a. Background board
b. Drafting equipment and supplies
c. Tape
d. Rubber cement
e. Knives
f. Proportional scale

TASK

C3 Preparing a camera ready paste-up

PERFORMANCE OBJECTIVE

Paste-up a camera ready copy.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Copy paste-up. Paste-up all copy for one plate on one sheet.
b. Locating illustration windows using rubylith
c. Guidelines drawn with blue pencil
d. Making hand-drawn additions lines with india ink
e. Index or register marks
f. Using rubber cement, wax, paste, tape

Provide Demonstration On:

Pasting up a copy

Provide Practical Application On:

Paste-up a camera ready copy.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

Georgia, Unit IMA-3

Equipment:

a. Copy to be pasted up
b. Rubber cement
c. Tape
d. Paste up sheet
e. Blue pencils
f. Pens, india ink
g. White opaque fluid

CLASSROOM HOURS 4

EVALUATION (C3)

Given a copy to be pasted up, supplies and paste-up sheet, the student will follow correct procedure for camera ready paste-up. The instructor will check the student's work for accuracy.

TASK

C4 Preparing line copy for reproduction

PERFORMANCE OBJECTIVE

Prepare line copy for reproduction.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Handling type proofs
   1. Spraying with plastic spray to keep copy clean
   2. Speedy handling
b. Procedure for pasting up type proofs
   1. Spray and dry
   2. Cement back and dry
   3. Tape face up on cardboard, trim
   4. Paste-up (handle with tweezers)
   5. Clean up excess rubber cement
   6. Place a tissue overlay on copy

Provide Demonstration On:

Pasting-up type

Provide Practical Application On:

Paste-up type copy following correct procedures.

INSTRUCTIONAL MATERIALS

Textbooks:

Cabibi

Student Manuals:

Georgia, Unit PA-4

Equipment:

a. Type copy
b. Cardboard
c. Tape
d. Rubber cement
e. Tissue overlay
f. Tweezers
g. Plastic spray (optional)

CLASSROOM HOURS

6

EVALUATION (C4)

Given appropriate tools, supplies and equipment, the student will paste-up type copy following correct procedures. The instructor will check the student's work for accuracy.

TASK

C5 Preparing a halftone copy for reproduction

PERFORMANCE OBJECTIVE

Prepare a halftone copy for reproduction.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Difference between line and halftone copy
b. Handling photographs
  1. Mounting
  2. Marking photo for camera man
  3. Cleaning the photo
  4. Using tissue overlay
c. Characteristics of halftones
  1. Gradation of tone
  2. Optical illusion
  3. Reflection of light
d. Procedure for producing a halftone from a continuous tone photograph
e. Theory of halftone reproduction
  1. Latent image
  2. Dots
  3. Highlight area
  4. Midtone areas
f. Screening methods
  1. Glass halftone screen
  2. Flexible plastic screen
  3. Autoscreen film
g. Types of screens
  1. Magenta
  2. Gray
h. Care of the screens

Provide Demonstration On:

continued on back

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

Georgia, Unit PA-5

Equipment:

a. Photographs (halftone)
b. Mounting board
c. Dry mount adhesive or paper

CLASSROOM HOURS 4

EVALUATION (C5)

Given appropriate supplies and equipment, the student will accurately prepare a halftone copy for reproduction. The instructor will check the student's work.

INSTRUCTIONAL ACTIVITIES

Provide Demonstration On:

Preparing a halftone copy for reproduction

Provide Practical Application On:

Prepare a halftone copy for reproduction.

INSTRUCTIONAL MATERIALS

d. Dry-mounter (optional)
e. Marking pens
f. Tissue
g. Cotton pad
h. Film cleaner

TASK

C6 Preparing line and halftone copy for reproduction

PERFORMANCE OBJECTIVE

Follow the correct procedure for preparing line and halftone copy for reproduction.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Variations of line and halftone combinations
b. Procedure for combining line and halftone copy
c. Surprint
d. Procedure for making a surprint
e. Halftone windows

Provide Demonstration On:

Pasting-up a combination line and halftone copy

Provide Practical Application On:

Prepare a line and halftone combination for reproduction.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

Georgia, Unit PA-7

Equipment:

a. Line copy
b. Halftone copy
c. Tape, rubber cement
d. Stripping table

CLASSROOM HOURS 2

EVALUATION (C6)

Given appropriate tools, supplies and equipment, the student will prepare a combination line and halftone copy for reproduction. The instructor will check the student's work for accuracy.

TASK

C7 Identifying preparation procedures for a multi-color copy

PERFORMANCE OBJECTIVE

Identify preparation procedures for a multi-color copy for reproduction.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Multi-color printing
b. Process color
    1. Color separations
    2. Primary colors
    3. Color printer
    4. Reflection copy
    5. Transmission copy
    6. Screen angles for color
    7. Moire pattern
c. Duotones
d. Mechanical-color copy
    1. Masking
    2. Overlays
    3. Key line
    4. Multiple negatives

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

A/Vs:

a. PICA, "How to Make a Duotone"
b. PICA, "Color Separations Made Simple"

Student Manuals:

a. Georgia, Unit PA-8
b. PICA, How to Make a Duotone, Fake Duotones and Color Separations Made Simple

CLASSROOM HOURS 6

EVALUATION (C7)

The student will accurately identify and describe the procedures used in the preparation of multi-color copy for reproduction.

TASK

D1 Understanding and using the printer's point system

PERFORMANCE OBJECTIVE

Demonstrate the ability to use the printer's point system.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Fonts
b. Printers point system
   1. PICA
   2. Line guage
   3. Points
   4. Inch side
   5. Back
c. Type larger than 72 point
   Lines
d. Text or body type (smaller than 12 points)
   Uses
e. Display types (larger than 12 points)
f. Most commonly used type sizes
g. Services
h. Family
i. Parts of a hand-set foundry type character
   1. Face
   2. Stem
   3. Serifs
   4. Body
   5. Belly or front
   6. Nick
   7. Groove
   9. Shoulder
   10. Counter
   11. Fillet
   12. Kern

Provide Practical Application On:

continued on back

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

a. Georgia, Unit T-1
b. PICA, Measurements in the Graphic Arts Industry

CLASSROOM HOURS

4

EVALUATION (D1)

Given a line gauge and a sample of various printed materials, the student will demonstrate the ability to use the printer's point system by accurately measuring the point size of the type.

INSTRUCTIONAL ACTIVITIES

Provide Practical Application On:

Use the line gauge to measure type size.

TASK

D2 Identifying methods of type composition for reproduction

PERFORMANCE OBJECTIVE

Identify the various methods of type composition reproduction.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Hot type composition Metal type (hand-set foundry type, monotype, linotype and intertype, ludlow)
b. Cold type composition
   1. Photo-copying
   2. Mechanical composition
      - Clip art
      - Hand drawn lettering
   3. Stencil scribing
   4. Pre-printed type (tab type, adhesive and transfer type
   5. Typewriting
c. Photo-type setting
   1. Photographic display lines
   2. Photographic page-composed type
d. Repros
e. Type specimen book
f. PICAS
g. Font, series, family
h. Cronapress conversion method
i. Brighttype method

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

a. Georgia, Unit T-2
b. PICA, Measurements in the Graphic Arts Industry
c. PICA, Modern Phototypesetting Methods

CLASSROOM HOURS

2

EVALUATION (D2)

Given necessary information, the student will accurately identify and describe the various methods of type composition reproduction.

TASK

D3 Applying principles of copy fitting

PERFORMANCE OBJECTIVE

Determine whether or not a copy, when set in type, will fit in the space available.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Definition of copy fitting
b. PICAs
c. Elite and pica typewriter character sizes
d. Average character count
e. Actual character count
f. Determining number of lines
g. Determining vertical space
    1. Point size or type
    2. Amount of leading between lines
    3. Number of lines to be set
h. If copy does not fit
    1. Change type size
    2. Change amount of leading between lines
i. Type specimen book
j. Marking a layout for type composition

Provide Demonstration On:

Marking a layout for type composition

Provide Practical Application On:

Mark a layout for type composition.

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

A/Vs:

PICA, "Measurement in the Graphic Arts Industry"

Student Manuals:

a. Georgia, Unit JPL-4
b. PICA, Copyfitting I
c. PICA, Copyfitting II

Equipment:

a. Examples of layouts to be type set
b. Line guage
c. Type specimen book
d. Pencils or pens

CLASSROOM HOURS 4

EVALUATION (D3)

Given a layout and appropriate equipment and supplies, the student will demonstrate an understanding of copy fitting principles by correctly marking a layout for type composition. The instructor will check the student's work.

TASK

D4 Identifying and classifying type composition and equipment

PERFORMANCE OBJECTIVE

Recognize hot metal composition and equipment and classify the three different categories of hot metal composition.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Hot composition
b. Hand set foundry type
    1. Foundried
    2. California job case
c. Machine set type
    1. Setting individual pieces
    2. Setting lines of type
    3. Magazine
d. Image generation by hand - set foundry type
    1. Lay of the case (dirty/clean)
    2. Newscase
    3. Double-cap case
    4. Triple and quadruple case
    5. Spaces and quads
    6. Em guad, 2 em quad, 3 em quad
    7. Em quad
    8. 3 em space
    9. Word space
    10. 4 em space, 5 em space, justification
    11. Hair space
e. Demon characters
f. Ligatures
g. Type composition
    1. Spacing in
    2. Spacing out
    3. Insufficient spacing
    4. Letter spacing
    5. Printer's style
i. Typing a type form
    1. Gallery
    2. Make up rule

continued on back

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit T-3

CLASSROOM HOURS

2

EVALUATION (D4)

Given necessary information and equipment, the student will identify and describe hot type composition and equipment and its relative use in the printing industry.

INSTRUCTIONAL ACTIVITIES

Provide Informaion On:

j. Proofing a type form
    1. Proof press
    2. Brayer
    3. Safety (solvents)
k. Image generation by machine - set type
    1. Ludlow
    2. Monotype
    3. Linotype and intertype
    4. Line casting machine

TASK

D5 Identifying image generation procedures

PERFORMANCE OBJECTIVE

Identify and describe the various methods of image assembly.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Mechanical layout
b. Classifications of image generation
   1. Hot composition
   2. Cold composition
c. Storage methods
d. Retrieval methods
e. Output

INSTRUCTIONAL MATERIALS

Textbooks:	Student Manuals:
Broekhuizen	Georgia, Unit IMA-1

A/Vs:

PICA, "Orientation to Composition"

CLASSROOM HOURS 2

EVALUATION (D5)

Given an overview of image generation procedures, the student will identify methods of image generation and describe the input, storage, retrieval and output methods for each.

TASK

D6 Identifying cold type composition

PERFORMANCE OBJECTIVE

Distinguish between "cold" and "hot" methods of composition.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Uses of cold composition
b. The linoleum block
   Wood cut
c. Technical illustrating
d. Clip art and pre-printed type
e. Strike on
f. Photocomposition

INSTRUCTIONAL MATERIALS

Textbooks:	Student Manuals:
Broekhuizen	Georgia, Unit T-4

CLASSROOM HOURS

2

EVALUATION (D6)

Given necessary information and equipment, the student will identify the characteristics of cold type and distinguish between cold and hot type composition methods.

TASK

D7 Identifying phototypesetting methods

PERFORMANCE OBJECTIVE

Identify, compare and contrast phototypesetting to other methods of composition.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Photocomposition defined
    1. Type font negatives
    2. Light sensitive paper or film
    3. Light
    4. Latent image
    5. Fixing bath
b. Strip printer
c. Phototypositor
d. Headliner
e. Comp/set phototypesetter
    1. Keyboard
    2. Screen
    3. Typesetter
f. Compugraphic display, phototypesetter and other examples such as Quadritek, A-M, IBM, etc.

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

A/Vs:

PICA, "Modern Phototypesetting Methods"

Student Manuals:

Georgia, Unit T-5

CLASSROOM HOURS

4

EVALUATION (D7)

Given necessary information and materials, the student will identify and describe the various methods of phototypesetting and related equipment and compare these methods to other methods of composition.

TASK

D8 Operating a photocomposer

PERFORMANCE OBJECTIVE

Operate a photocomposer.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. History and development of phototypesetting
b. The process and equipment
c. Operating a comp/set or equivalent machine
    1. Commands
    2. Type size, line lengths, spacing
    3. Fonts
    4. Primary and secondary leading
d. Cursor copy
    1. Cursor left and right
    2. Single erase
    3. Word erase
    4. Rub-out
e. Justified copy
f. End-of-job command
g. Advanced commands
h. Processing the copy

Provide Demonstration On:

a. Operating the photocomposer
b. Processing a copy

Provide Practical Application On:

Operate the photocomposer to produce a corrected copy and process the copy.

INSTRUCTIONAL MATERIALS

Textbooks:

Operating Instructions, Comp/Set Phototypesetting Systems

A/Vs:

a. Prentice-Hall Media, "Comp/Set Operation Training Program"
b. Prentice-Hall Media, "Introduction to Phototypesetting"

Student Manuals:

a. Prentice-Hall, Comp/Set Operation Training Program
b. Prentice-Hall, Introduction to Phototypesetting

Equipment:

Comp/set phototypesetter

CLASSROOM HOURS 4

EVALUATION (D8)

Given phototypesetter and copy, the student will operate the machine using appropriate commands to produce a corrected copy. The student will process the copy and present to the instructor for evaluation.

TASK

D9 Operating the varityper headliner

PERFORMANCE OBJECTIVE

Operate the varityper headliner.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Operating controls
b. Types of film and film care
c. Loading film
d. Mixing chemicals and placing in machine
e. Selecting a font
f. Installing a font
g. Stripping the letters on film
h. Applying letters to copy
    1. Self-adhering
    2. Rubber cement

Provide Demonstration On:

Operating the varityper

Provide Practical Application On:

Operate the varityper to produce a headline with specific point size, letters and apply to copy.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Equipment:

a. Varityper Model 880
b. Film and chemicals
c. Scissors or stripping tool
d. Rubber cement
e. Drafting tools

CLASSROOM HOURS 4

EVALUATION (D9)

Given a varityper headliner and specifications, the student will produce a headline of specific point size letters and accurately apply the headline to a given copy. The instructor will check the student's work.

TASK

D10 Performing proof-reading operations

PERFORMANCE OBJECTIVE

Use the correct procedure for accurate proof-reading.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Definitions of proof-reading
b. Reading proof
c. Reproduction proof
d. Brief history of proof-reading
e. Proof presses
    1. Letter press types
    2. Lithographic types
    3. Gravure types
f. Making a reading proof
g. Making a reproduction proof
h. Copy holder
i. Proof-reader
j. Qualifications of copy holder and proof-reader
k. Proof-reader's marks
l. Procedure for proof-reading a copy
m. Marking the galley proof

Provide Practical Application On:

a. Mark a sample copy with correct proof-reader's marks.
b. Practice reading several current articles to locate errors.

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

Student Manuals:

Georgia, Unit JPL-6

Equipment:

a. Sample copies
b. Proof-readers pencils
c. Magazines, papers, etc.

CLASSROOM HOURS 2

EVALUATION (D10)

Given a sample copy, the student will use the correct procedure for proof-reading and mark all errors and corrections with the appropriate proof-reading mark.

TASK

E1 Designing with type

PERFORMANCE OBJECTIVE

Use type as a design material.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Psychology of a type face
b. Choosing a type face
   1. Legibility
   2. Readability
   3. Appropriateness
   4. Reproducibility
   5. Practicality
c. Type face classifications
   1. Text
   2. Roman
   3. Sans serif
   4. Square serif
   5. Script
   6. Novelty
d. Evolution of the alphabet
e. Type styles and their uses

Provide Practical Application On:

Design a layout using only type as the design medium.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Designing with Type - A Basic Course in Typography

A/Vs:

a. PICA, "Type Styles and Their Uses"
b. Prentice-Hall Media, "Introduction to Typography"

Student Manuals:

Georgia, Unit AP-2

Equipment:

Type composition equipment and supplies

CLASSROOM HOURS

4

EVALUATION (E1)

Given appropriate equipment and supplies, the student will design a layout using type as the only design medium. The instructor will check the student's work.

TASK

E2 Identifying basic lettering procedures

PERFORMANCE OBJECTIVE

Identify basic lettering procedures.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Lettering
   1. Freehand
   2. Mechanical
b. Hand lettering instruments
   1. Speed ball pens
   2. Technical pens
   3. Felt-tipped pens
   4. Charcoal
   5. India ink
   6. Water colors
   7. Brushes
   8. Pencil
   9. Crow quill pens
c. Single-stroke method (mechanical)
d. Spacing
e. Using lettering guides

INSTRUCTIONAL MATERIALS

Textbooks:	Student Manuals:
Broekhuizen	Georgia, Units A and I-3

CLASSROOM HOURS 4

EVALUATION (E2)

Given an overview of basic lettering procedures, the student will identify basic lettering techniques, mechanical and freehand, and name the tools used for the procedures.

TASK

E3 Rendering letter forms

PERFORMANCE OBJECTIVE

Use the correct procedure to render lettering ready for photo conversion.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Procedures for lettering (review)
b. Tools and instruments for lettering (review)
c. Cleanliness procedures

Provide Demonstration On:

a. Using lettering guides
b. Using speed ball ink pen

Provide Practical Application On:

a. Ink letters on copies supplied by instructor.
b. Use a lettering guide and ink to write your name.

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Units A and I-4

Equipment:

a. Pens
b. Ink
c. Lettering guide

CLASSROOM HOURS 4

EVALUATION (E3)

Given pen, ink and lettering guide, the student will render letter forms using correct procedure which are neat, clean and ready for photoconversion.

TASK

E4 Performing image creation by technical illustration

PERFORMANCE OBJECTIVE

Identify and describe the principles and practices of image creation by technical illustration.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Freehand drawing
   1. Tools and
   2. Rough sketches
b. Creating cartoon characters
   1. Use of geometric shapes
   2. Oval method
c. Mechanical drawing
   1. Orthographic projection
   2. Pictorial (isometric, perspective, oblique)
   3. Schematic

INSTRUCTIONAL MATERIALS

Textbooks:	Student Manuals:
Broekhuizen	Georgia, Units A and I-5

CLASSROOM HOURS

4

EVALUATION (E4)

Given an overview of technical illustration, the student will identify and describe the principles and practices of image creation by technical illustration.

TASK

E5 Designing and printing a resume

PERFORMANCE OBJECTIVE

Design and print a resume.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Writing a resume, guide for writing a resume
b. Laying out a resume
c. Printing a resume

Provide Practical Application On:

Layout a resume with a photograph and print 100 copies.

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit AP-1

Equipment:

a. Photographs and personal information
b. Basic drafting equipment and supplies and light table
c. Basic process and printing equipment

CLASSROOM HOURS 10

EVALUATION (E5)

Given appropriate equipment and supplies, the student will design, layout and print 100 copies of a resume. The instructor will check the student's work.

TASK

F1 Identifying characteristics of film

PERFORMANCE OBJECTIVE

Identify the structure, characteristics of and handling procedures for panchromatic and orthochromatic films.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Basic parts of film
   1. Base
   2. Emulsion
   3. Overcoat
   4. Antihalation backing
   5. Anticurl coating
b. Kinds of film
   1. Panchromatic
   2. Orthochromatic
c. Film handling precautions
   1. Temperature and humidity
   2. Pressure
   3. Handling
d. Safelights
e. Film for line work

Provide Demonstration On:

How to handle panchromatic and orthochromatic films

Provide Practical Application On:

Examine a set of negatives, one panchromatic film, one orthochromatic film under reflected white, black, blue, green and red light and record the effect on light and dark areas.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Kodak, Line Photography

Student Manuals:

Georgia, Unit LP-9

Equipment:

a. Pan film
b. Ortho film
c. Pan and ortho negatives
d. Lights
e. Reflective cards: black, white, red, green, blue

CLASSROOM HOURS

2

EVALUATION (F1)

Given examples of panchromatic and orthochromatic film, the student will identify the major characteristics of each, naming the major layers which compose the film, the characteristics of each type of film and the appropriate safelights for each type. Identification must comply with the instructor's specifications.

TASK

F2 Using sensitivity scales to develop line negatives

PERFORMANCE OBJECTIVE

Use a Kodak opposed gray scale (sensitivity scale) to develop a line negative.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Gray scales
b. How to make use of opposed gray scales
c. Kodak color, separation guides
d. Density, value
e. "Break" point
f. Aim point
g. Weak and/or soiled copies
h. Adjusting use of guide to shop conditions
i. Development by opposed gray scale

Provide Demonstration On:

a. Use of the Kodak opposed gray scale
b. Making an opposed gray scale

Provide Practical Application On:

Develop a line negative by opposed gray scale.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Kodak, Line Photography
c. Kodak, Basic Photography for the Graphic Arts

Student Manuals:

Georgia, Unit LP-10

Equipment:

a. Ortho film
b. Opposed gray scale
c. Darkroom

CLASSROOM HOURS 1

EVALUATION (F2)

Given an orthochromatic film negative (exposed) and a Kodak opposed gray scale, the student will correctly process the negative using a predetermined "break point".

TASK

F3 Predicting the effects of variables in processing

PERFORMANCE OBJECTIVE

Predict the effects on processing negatives by changes in exposure time, time of development, temperature and agitation.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Relationship of F-stop to aperture size
b. Adjusting exposure time to compensate for different F-stop settings
c. Calculating exposure for stationary light sources

Provide Demonstration On:

Using product examples, show effect of variation in:

1. Exposure time
2. Development time
3. Temperature
4. Agitation

Provide Practical Application On:

a. Develop negatives at other than normal developing time and observe results.
b. Develop negatives at higher and lower than normal temperature and observe results.
c. Develop negatives with more and less than normal agitation and observe results.

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit LP-16

CLASSROOM HOURS 2

EVALUATION (F3)

Given a set of normally exposed negatives, the student will develop the negatives with other than normal development times, developer temperature or agitation procedures and predict the results of these processing variables with at least 80% accuracy with respect to negative density.

TASK

F4 Demonstrating an understanding of the basic principles of line photography

PERFORMANCE OBJECTIVE

Demonstrate an understanding of basic principles of line photography.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Fundamentals of line photography
    1. The negative
    2. The copy
    3. The flat
    4. The plate
    5. The press sheet
b. Processing
    1. Developing
    2. Stopping
    3. Fixing
    4. Washing
c. Properties of light
d. Three major parts of a process camera
    1. Vacuum back
    2. Lens board
    3. Copy board
e. Preparation of processing chemicals
f. Line, continuous tone, halftone photography (difference)

Provide Practical Application On:

a. Units I, II and III in Line Photography
b. Collect five magazine clippings demonstrating everyday use of line photography.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Kodak, Line Photography
b. Kodak, Basic Photography for the Graphic Arts
c. Dennis and Jenkins

Student Manuals:

Georgia, Unit LP-1

CLASSROOM HOURS 3

EVALUATION (F4)

Given appropriate text assignments, audio-visuals and practical applications, the student will describe the process of producing a line negative, explain the functions of the developer, stop bath and fixing bath and describe in order of importance the five components of the offset photolithography process. The student's description should be clear, concise and accurate.

TASK

F5 Setting up the darkroom

PERFORMANCE OBJECTIVE

Prepare all tray solutions and set up the processing (dark) room with all trays in proper position.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Film
b. Processing types/method:
    1. Processor
    2. Tray
c. Processing
    1. Time
    2. Temperature
    3. Illumination
d. Equipment and uses of
e. Developer, stop bath, fixer, wash preparation
f. Development by inspection
g. Clean darkroom equipment
h. Dispose of chemicals
i. Inspecting, cleaning and maintaining darkroom equipment

Provide Demonstration On:

Setting up the process room for tray processing

Provide Practical Application On:

a. Preparing tray chemicals
b. Setting up trays in proper order

INSTRUCTIONAL MATERIALS

Textbooks:

a. Kodak, Basic Photography for the Graphic Arts
b. Kodak, Line Photography
c. Dennis and Jenkins

Student Manuals:

Georgia, Unit LP-6

Equipment:

a. Darkroom
b. Timer
c. Thermometer
d. Safelight lamp/filter
e. Four trays
f. Developer, stop bath, fixer
g. Water for wash
h. Kodalith film

CLASSROOM HOURS 2

EVALUATION (F5)

a. Given appropriate supplies and equipment, the student will correctly prepare all chemicals and set up trays in position to process Kodalith film.

b. The instructor will check the student's work by asking the student to:

   1. Orally identify the chemicals which will go into each tray.
   2. Explain the order of processing steps, the length of each step and the appropriate temperature of each solution.
   3. Demonstrate the appropriate procedure for mixing developer, stop bath and fixer observing all procedures and temperature requirements.

TASK

F6 Identifying the principles of the process camera

PERFORMANCE OBJECTIVE

Identify the basic parts of the process camera and explain the function of each.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Parts of the process camera
   1. Lens
   2. Bellows
   3. Camera back
   4. Copyboard
   5. Lights
   6. Rail
   7. Vacuum pump
   8. Ground glass

b. The horizontal camera

c. The vertical camera

Provide Demonstration On:

a. Parts of the process camera

b. Range of operation

c. Typical adjustments for different types of copy work

d. Variations in lighting and their control circuits

Provide Practical Application On:

Drawing a diagram of a horizontal and vertical process camera, labeling the basic parts and explaining the function of each part

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

Student Manuals:

Georgia, Unit LP-2-1

CLASSROOM HOURS 1

EVALUATION (F6)

Given a diagram or a live example of a vertical or horizontal process camera, the student will identify the basic parts of the camera and explain the function of each part.

TASK

F7 Identifying the basic parts of the process camera

PERFORMANCE OBJECTIVE

Identify the basic parts of the process camera, correctly name all parts and explain the function of each part.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Lens-lens barrel, f-stops, diaphragm control, collar, shutter
b. Bellows
c. Camera back-vacuum back
d. Copyboard
e. Lights
f. Timer
g. Vacuum pump
h. Rail
i. Flash lamp

Provide Practical Application On:

On a labeled diagram, identify the parts of a process camera and explain their function.

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

Student Manuals:

Georgia, Unit LP-4

Equipment:

Process camera (optional)

CLASSROOM HOURS 1

EVALUATION (F7)

Given a live process camera, or a diagram, the student will identify the major parts of the camera and correctly describe the function of each.

TASK

F8 Identifying basic process camera adjustments and movements

PERFORMANCE OBJECTIVE

Identify the basic adjustments and movements on a process camera to make a 100% or 1:1 negative.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Scaling a copy
   1. Proportioned rule method
   2. Mathematical formula
   3. Diagonal line technique
b. Specifying enlargement and reduction size
c. Register marks
d. Positioning of lights
e. Use of light meter
f. Setting up and loading the process camera

Provide Demonstration On:

Making a 100% negative with the process camera

Provide Practical Application On:

Make a 100% negative with the process camera.

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

Student Manuals:

Georgia, Unit LP-5

Equipment:

a. Process camera
b. Light meter
c. Material to be copied

CLASSROOM HOURS 1

EVALUATION (F8)

Given a process camera and a six to eight inch high piece of black and white copy, the student will correctly adjust and move the camera to make a 100% or 1:1 negative.

TASK

F9 Using F-numbers to adjust exposure

PERFORMANCE OBJECTIVE

Produce properly exposed negatives using a series of varied F-stops to observe the effects of changing F-stops.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. The diaphragm
b. Range of F-numbers
c. Relationship of F-number to focal length
d. Effects of aperture size
e. Exposure times
f. Equivalent exposure times
g. Reciprocity

Provide Demonstration On:

Making an equivalent exposure chart

Provide Practical Application On:

Make several equivalent exposures using a series of F-stops. Develop negatives and observe results.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Kodak, Line Photography

Student Manuals:

Georgia, Unit LP-11

Equipment:

a. Kodalith film
b. Process camera
c. Exposure meter
d. Darkroom

CLASSROOM HOURS 2

EVALUATION (F9)

Given a suitable copy, the student will properly produce exposed negatives using various F-stops and equivalent exposure times. The student will observe the results of each exposure and explain them in terms of:

a. Relationship of F-number to focal length
b. F-number size in relation to aperture opening
c. Relative aperture size and the effect on exposure
d. Lens speed

The explanation will meet with the instructor's approval.

TASK

F10 Determining camera settings for enlargement and reductions

PERFORMANCE OBJECTIVE

Calculate exposure and scale settings to produce a negative to a specified dimension.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. 100% negatives
b. Enlargements
c. Reductions
d. Reproduction ratio formula
e. Reproduction calculator
f. Diaphragm control scale
g. Exposure formula (new time)
h. Exposure formula (final time)

Provide Demonstration On:

a. Use of the diaphragm control scale
b. Converting copy size data to camera settings

Provide Practical Application On:

Practice setting camera for several sizes of reproductions. Set both exposure and scale.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Kodak, Line Photography
b. Kodak, A Glossary of Photographic Terms

Student Manuals:

Georgia, Unit LP-13

Equipment:

a. Process camera
b. Work to be copied

CLASSROOM HOURS 2

EVALUATION (F10)

Given three pieces of copy with dimensions for final size, the student will calculate both exposure and scale settings to produce a good negative of correct image size.

TASK

F11 Demonstrating an understanding of the principle of image inversion and the process of focusing a process camera

PERFORMANCE OBJECTIVE

Demonstrate an understanding of the principle of image inversion and the process of focusing an process camera.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Basic parts of camera
b. Properties of light
c. How light carries the image
d. Image inversion
e. Relationship of image size to bellow extension and distance between lens and copy board

Provide Demonstration On:

Focusing a process camera to demonstrate image inversion

Provide Practical Application On:

a. Drawing a diagram of a same-size image inversion
b. Diagram the basic parts of a process camera in position for a reduction.
c. Draw a diagram in position for enlargement.
d. Focusing a process camera

INSTRUCTIONAL MATERIALS

Textbooks:

Kodak, Line Photography

Student Manuals:

Georgia, Unit LP-3

Equipment:

Process camera (optional)

CLASSROOM HOURS

2

EVALUATION (F11)

Given a diagram or a live process camera, the student will correctly explain the procedure for focusing the process camera and name the basic parts involved. The student will also explain the phenomenon of image inversion.

TASK

F12 Evaluating negatives

PERFORMANCE OBJECTIVE

Select a negative from a group of randomly good and bad negatives and evaluate its quality. Make recommendations for improvements if needed.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Process negatives
b. Illuminator or light table
c. Magnifier
d. Light areas, dark areas, pin holes in negatives
e. Edge sharpness
f. Exposure problems (under-, over-exposure lighting problems)
g. Development problems (under-, over-development, fogging)
h. Darkroom cleanliness problems

Provide Demonstration On:

Show examples of:
  a. Good negative
  b. Under-exposed negative
  c. Over-exposed negative
  d. Under-developed negative
  e. Over-developed negative
  f. Stained negative
  g. Negative from poor copy
  h. Results of uneven lighting
  i. Fogged negative

continued on next page

INSTRUCTIONAL MATERIALS

Textbooks:

Kodak, Line Photography

Student Manuals:

Georgia, Unit LP-8

Equipment:

a. Good and bad negatives
b. Light lamp
c. Magnifier

CLASSROOM HOURS 2

EVALUATION (F12)

Given a set of ten negatives selected by the instructor, the student will evaluate the negatives' quality and identify the following conditions:

- a. Under-exposure
- b. Over-exposure
- c. Stained
- d. From poor copy
- e. From uneven lighting

Identifications must be made according to the instructor's satisfaction.

INSTRUCTIONAL ACTIVITIES

Provide Practical Application On:

Look at a set of ten negatives and decide:

- a. Good
- b. Bad (under-exposure, over-exposure, stained, poor copy, uneven lighting)
- c. Recommed correction/improvement

TASK

F13 Producing a line negative

PERFORMANCE OBJECTIVE

Expose and process a line negative for a small reproduction using the time and temperature development method.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Line negatives
b. Preparation of the darkroom
c. Adjustment of the camera
d. Placing the copy on the copyboard
e. Locating the film
f. Developing the film

Provide Demonstration On:

a. Exposing a line negative
b. Processing a line negative using the time-temperature method

Provide Practical Application On:

a. Selecting a copy and exposing it
b. Developing a line negative (time-temperature method)

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

A/Vs:

PICA, "Making Line Negatives"

Student Manuals:

a. Georgia, Unit LP-7
b. PICA, Making Line Negatives

Equipment:

a. Process camera
b. Darkroom and related supplies
c. Materials to be copied
d. Kodalith film

CLASSROOM HOURS

2

EVALUATION (F13)

Given a job to copy, the student will correctly expose and process a small size reproduction using the time-temperature method of development.

TASK

F14 Producing enlarged and reduced negatives

PERFORMANCE OBJECTIVE

Set the process camera to produce a negative of specified size.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Focusing by scale or tape
b. Parallax method of focusing
c. Reductions
d. Enlargements
e. Cleaning the lens and copy glass
f. Standard exposure for 100%

Provide Demonstration On:

Focusing the camera and setting exposure for enlargements and reductions

Provide Practical Application On:

a. Making an enlargement
b. Making a reduction

INSTRUCTIONAL MATERIALS

Textbooks:

Kodak, Basic Photography for the Graphic Arts

Student Manuals:

Georgia, Unit LP-14

Equipment:

a. Process camera
b. Kodalith film
c. Copy work
d. Darkroom
e. G-10 power magnifier

CLASSROOM HOURS 1

EVALUATION (F14)

Given a copy and specifications for final dimensions, the student will determine camera position and exposure settings to produce a proper sized, correctly exposed and sharp negative.

TASK

F15 Making a two-step reduction

PERFORMANCE OBJECTIVE

Make a two-step reduction.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Making a film positive
b. Contact printing frame (vacuum printing frame)
c. Contact printing light sources
d. Making a contact positive from a negative
e. Film types
f. Safelights
h. Processing
i. Reductions
j. Paper and paper processors

Provide Demonstration On:

a. Using a contact printing frame
b. Using the Ektamatic processor (optional)

Provide Practical Application On:

a. Making a contact position from a negative
b. Using a contact printing frame
c. Using Kodak Ektamatic paper and processors (optional)

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Kodak, Basic Photography for the Graphic Arts
c. Kodak, Line Photography

A/Vs:

PICA, "Making Line Negatives by the Contact Method"

Student Manuals:

a. Georgia, Unit LP-15
b. PICA, Making Line Negatives by the Contact Method

Equipment:

a. Process camera
b. Darkroom
c. Kodalith film
d. Ektamatic paper (optional)
e. Ektamatic processor and chemical (optional)
f. Contact printing frame

CLASSROOM HOURS 4

EVALUATION (F15)

Given a copy which requires a reduction beyond the range of the process camera, the student will produce a two-step reduction by making an intermediate negative, a contact positive and a final negative. The resulting procedure will result in a sharp, clear print which exactly meets job specifications.

TASK

F16 Making a line negative from a continuous tone photograph

PERFORMANCE OBJECTIVE

Produce a continuous tone photograph.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Halftone photography
    1. Define
    2. Uses
    3. Compare to letter press, lithographic press
b. The halftone negative
c. Halftone screens
d. Procedure for making a halftone negative
e. Line negatives
f. Making a line negative from a continuous tone photograph

Provide Practical Application On:

Making a line negative from a continuous tone photograph

INSTRUCTIONAL MATERIALS

Textbooks:

a. Kodak, Halftone Methods for the Graphic Arts
b. Kodak, Halftone Photography

Student Manuals:

Georgia, Unit HTP-1

Equipment:

a. Process camera
b. Darkroom
c. Contact printing frame
d. Kodalith film
e. Continuous tone photographs

CLASSROOM HOURS 6

EVALUATION (F16)

a. Given a continuous tone photograph, the student will produce the photograph using line photographic procedures.

b. Kodak, Halftone Photography, Unit I, p. 2, questions 1-4

TASK

F17 Demonstrating an understanding of fundamental principles of halftone photography

PERFORMANCE OBJECTIVE

Describe the process used to produce a halftone negative.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Halftone screens
b. Uses of halftone screens
c. Contact screens
d. Uses of contact screens
e. Stripping
f. Halftone negatives
g. Dot pattern (eliptical and conventional)
h. Continuous tone
i. Screen ruling
j. Difference between magenta and gray screens
k. Vignette
l. Evlauating a halftone negative
m. Printable dots

Provide Practical Application On:

a. Examine a gray and magenta negative contact screen with a 10X magnifier.
b. Identify halftone areas in photographs with a 10X magnifier.

Provide Demonstration On:

Plotting the density steps:
  a. Toe
  b. Shoulder
  c. Contrast shift
  d. Gamma contrast variation with film types

INSTRUCTIONAL MATERIALS

Textbooks:

a. Kodak, Halftone Methods for the Graphic Arts
b. Kodak, Halftone Photography

A/Vs:

a. PICA, "How to Make a Halftone Negative"
b. PICA, "Halftone Exposure"

Student Manuals:

a. Georgia, Unit HTP-2
b. PICA, How to Make a Halftone Negative
c. PICA, Halftone Exposure

Equipment:

a. Contact screens
b. 10X magnifiers

CLASSROOM HOURS 4

EVALUATION (F17)

a. Given the following terms, the student will accurately define each term and relate these terms to the process for production of a halftone negative:

1. Halftone screen
2. Contact screen
3. Halftone negative
4. Dot pattern
5. Continuous tone
6. Screen ruling

b. Kodak, Halftone Photography, Unit II, p. 2, questions 1-4

TASK

F18 Determining density range of a halftone negative

PERFORMANCE OBJECTIVE

Determine the density range of a halftone negative. Make a flash exposure to increase the density range.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Density
b. Density range
c. Densitometer
  1. Electronic
  2. Reflective
d. Kodak reflection density guide
e. Basic density range (BDR)
f. Computing the BDR
g. Flashing lamp
h. Flashing negative to increase density

Provide Demonstration On:

a. Using the Kodak reflection density guide to compute BDR
b. Using a flashing lamp

Provide Practical Application On:

a. Using the Kodak density guide to calculate BDR
b. Using a flashing lamp to increase density of a negative

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Kodak, Halftone Photography

Student Manuals:

Georgia, Unit HTP-5

Equipment:

a. Kodak reflection density guide
b. Flashing lamp
c. Process camera
d. Darkroom

CLASSROOM HOURS 4

EVALUATION (F18)

a. Given a halftone negative and a Kodak reflection density guide, the student will compute the basic density range (BDR) of the negative.

b. Kodak, Halftone Photography, Unit IV, p. 5, questions 1-5

TASK

F19 Using various graphic arts exposure computers to determine main and flash exposure

PERFORMANCE OBJECTIVE

Calibrate various graphic arts exposure computers to determine the main and flash exposure for a selected copy.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Graphic arts exposure computers
b. Parts of the computer
    1. Reflection density guide
    2. Exposure computer
c. Calibrating the computer
    1. Main exposure test negative
    2. Flash exposure
    3. Process test negative
    4. Examine test negative

Provide Demonstration On:

a. Calibrating the computer
b. Using the computer

Provide Practical Application On:

a. Calibrating the computer for main and flash exposure
b. Using the computer to determine main and flash exposure and produce a halftone negative

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Kodak, Halftone Photography

A/Vs:

PICA, "Using the Kodak Halftone Negative Computer"

Student Manuals:

a. Georgia, Unit HTP-6
b. PICA, Using the Halftone Negative Computer

Equipment:

a. Process camera
b. Graphic arts exposure computer

CLASSROOM HOURS

EVALUATION (F19)

Given a graphic arts exposure computer, the student will calibrate and use the computer to determine main and flash exposure.

TASK

F20 Producing a halftone negative and contact print

PERFORMANCE OBJECTIVE

Produce a halftone negative and make a contact print from the negative.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Process camera features
b. Kodalith autoscreen
c. Ortho type 2563
d. Using the light meter
e. Placing and angling lights
f. Positioning contact screen
g. Procedure for producing a halftone negative with a contact screen
h. Evaluating a halftone contact print
i. Inspecting, cleaning and maintaining the process camera
j. Loading and exposing film by the contact method
k. Inspecting, cleaning and maintaining the illuminating system
l. Using commercial pan film for line and halftone work
m. Using camera filters
n. Calculate filtration

Provide Demonstration On:

a. Positioning lights
b. Producing a halftone negative with a contact screen

Provide Practical Application On:

a. Setting the camera lights
b. Making a main exposure and a contact print to produce halftone negative

INSTRUCTIONAL MATERIALS

Textbooks:

a. Kodak, Halftone Methods for the Graphic Arts
b. Kodak, Halftone Photography

A/Vs:

a. PICA, "Basic Contact Printing"
b. PICA, "Making Halftones by the Contact Method"

Student Manuals:

a. Georgia, Unit HRP-3
b. PICA, Making Halftones by the Contact Method

Equipment:

a. Process camera
b. Kodalith film
c. Contact printing screen
d. Contact printing frame
e. Darkroom

CLASSROOM HOURS

4

EVALUATION (F20)

Given appropriate materials and equipment, the student will produce a halftone negative from a continuous tone photograph by contact printing the negative using appropriate contact printing screens. The negative and print must meet industry standards as judged by the instructor.

TASK

F21 Evaluating halftone negatives

PERFORMANCE OBJECTIVE

Evaluate a halftone negative in terms of dot size, highlight and shadow areas.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

Halftone negatives
- a. Highlight areas
- b. Midtone areas
- c. Shadow areas
- d. Shadow dots
- e. Highlight dots

Provide Practical Application On:

Look at halftone prints using a magnifier and identify highlight dots and shadow dots.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Kodak, Halftone Photography
b. Kodak, Halftone Methods for the Graphic Arts

Student Manuals:

Georgia, Unit HTP-4

Equipment:

a. Halftone prints
b. Magnifiers
c. Step gauge
d. Densitometer

CLASSROOM HOURS

2

EVALUATION (F21)

Given three prints made from different halftone negatives, the student will evaluate the print in terms of dot size, in both shadow and highlight areas, and how the print quality compares to the original. The instructor will rate the student's evaluation.

TASK

F22 Making a negative from a line mechanical with halftone paper print

PERFORMANCE OBJECTIVE

Produce a line negative from a mechanical that has both line copy and halftone print.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Halftone negatives
b. Halftone prints
c. Halftone dots
d. Shooting halftone and line copy together on process camera
e. Paste-up
f. Enlarging and reducing halftone mechanicals (precautions)

Provide Practical Application On:

Shooting a line copy with a halftone print and making contact print

INSTRUCTIONAL MATERIALS

Textbooks:

Kodak, Halftone Photography

Student Manuals:

Georgia, Unit HRP-7

Equipment:

a. Process camera
b. 10 x 12 inch piece of white poster paper
c. Halftone print
d. Ruler
e. Rubber cement
f. Scissors
g. Light blue pencil
h. Black India ink and pens
i. Kodalith film
j. Contact printing frame
k. Step gauge

CLASSROOM HOURS 4

EVALUATION (F22)

Given a line mechanical and halftone print copy and appropriate equipment and supplies, the student will produce a negative with both halftones and line copy and make a contact print. The print will be clear, sharp and meet the instructor's approval.

TASK

F23 Using advanced halftone photography techniques

PERFORMANCE OBJECTIVE

Use advanced halftone photography techniques for special effects.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Gradation of tone
b. Halftone screens
c. Posterizing
d. Optical illusion
e. Multi-color posterization
f. Outline halftones

Provide Practical Application On:

Produce a posterized halftone negative and contact print.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

A/Vs:

a. PICA, "Posterization"
b. PICA, "Posterization: The Contact Method"
c. PICA, "ROP Color Separation"
d. PICA, "Stripping Multi-Color Line Negatives"
e. PICA, "Five Ways to Make an Outline Halftone"

Student Manuals:

PICA, Posterizations, Posterizations: The Contact Method, Stripping Multi-Color Line Negatives, Five Ways to Make an Outline Halftone and ROP Color Separations

Equipment:

a. Basic process equipment and supplies
b. Contact printing frame

CLASSROOM HOURS 16

EVALUATION (F23)

Given appropriate equipment and supplies, the student will produce a posterized halftone negative and contact print. The instructor will evaluate the quality of the student's work.

TASK

F24 Making halftones with Autoscreen film

PERFORMANCE OBJECTIVE

Produce a halftone negative using Autoscreen ortho film.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Autoscreen ortho film
b. Detail exposure
c. Making a detail exposure by flash
d. Processing Autoscreen film

Provide Practical Application On:

Making a halftone negative using Autoscreen ortho and contact print

INSTRUCTIONAL MATERIALS

Textbooks:

Kodak, Basic Photography for the Graphic Arts

Student Manuals:

Georgia, Unit HTP-9

Equipment:

a. Process camera or view camera
b. Autoscreen film
c. Darkroom
d. Contact printing frame

CLASSROOM HOURS 6

EVALUATION (F24)

Given appropriate copy and equipment, the student will produce a halftone negative and contact print using Autoscreen film from a copy which has both continuous tone and line copy. The resulting print will be clear, sharp and meet with instructor's approval.

TASK

G1 Demonstrating an understanding of basic principles of stripping and platemaking

PERFORMANCE OBJECTIVE

Identify specific terminology basic to image carrier preparation and principles related to its use.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Lithographic imposition (stripping)
b. Flat
c. Lithographic plate
d. Negative emulsion
e. Masking sheet - goldenrod paper
f. Use of masking sheet
g. Platemaker
h. Storing and filing flats
i. Basic stripper functions
j. Negative stripping
k. Positive stripping
l. Plates
m. Making plates with a photo-direct platemaker

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

A/Vs:

PICA, "Basic Stripping"

Student Materials:

a. Georgia, Unit 1CP-1
b. PICA, Basic Stripping

CLASSROOM HOURS 2

EVALUATION (G1)

The student will correctly identify specific terminology basic to image carrier preparation and identify principles related to the terminology.

TASK

G2 Laying out and stripping a flat

PERFORMANCE OBJECTIVE

Perform the appropriate steps to layout and strip a flat.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Layout and stripping
   1. Flat
   2. Goldenrod paper
   3. Plate
   4. Platemaker
   5. Storing a flat
   6. Light table (using and cleaning
   7. T-square and triangles
   8. Rules
   9. Linen tester and magnifier
   10. Knives, scissors, brushes
   11. Making sheets
   12. Opaque solution
   13. Tape

b. Procedure for stripping a flat
   1. Inspection of negative
   2. Study specifications
   3. Location of leading edge
   4. Identifying gripper margin
   5. Locating sheet margins

c. Layout
   1. Marking the masking sheet for single page
   2. Marking the masking sheet for multiple pages

d. Attaching negatives to the masking sheet

e. Cutting windows and opaquing

f. Combining illustrations and halftones with line negatives

(continued on back)

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Broekhuizen

Student Manuals:

Georgia, Unit 1CP-5

Equipment:

a. Light table
b. T-squares
c. Triangles
d. Rules
e. Linen tester and magnifier
f. Knives, scissors, brushes
g. Masking paper, masking sheets
h. Opaque solution/tape

CLASSROOM HOURS 4

EVALUATION (G2)

Given appropriate materials and supplies, the student will properly lay out and strip a flatwork. The resulting work should be neat and functional.

INSTRUCTIONAL ACTIVITIES

Provide Practical Application On:

Layout and strip a flat.

TASK

G3 Stripping a flat using screen tints

PERFORMANCE OBJECTIVE

Strip a flat with a negative or portion thereof which has been screen tinted.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Screen tints
b. Positioning screen tint sheets
c. Use of multiple screen tints
d. Combining illustration and halftones with line negatives
e. "Double burning" a plate
f. Screen tint values
g. Percentage values
h. Lines

Provide Demonstration On:

Properly taping screen tint material

Provide Practical Application On:

Stripping a flat using screen tint materials

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Cogoli

A/Vs:

PICA, "Stripping Duotones"

Student Manuals:

a. Georgia, Unit 1CP-8
b. PICA, Stripping Duotones

Equipment:

a. Tape
b. Screen tint material
c. Light table
d. T-squares, triangles, rules
e. Linen tester and magnifier
f. Knives, scissors, brushes

CLASSROOM HOURS	2

EVALUATION (G3)

Given appropriate materials and supplies, the student will correctly strip a flat and apply screen tint material. The instructor will judge the student's work acceptable based on neatness, appropriateness of screen chosen and registration.

TASK

G4 Stripping a flat with multiple registration

PERFORMANCE OBJECTIVE

Strip a flat with multiple registration.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Rationale for multiple images
b. Stripping a flat
c. Registration of multiple images

Provide Demonstration On:

How to strip flatwork with four images

Provide Practical Application On:

Stripping a flat with multiple registration

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Cogoli

Student Manuals:

Georgia, Unit 1CP-6

Equipment:

a. Light table
b. T-squares
c. Triangles
d. Rules
e. Linen tester and magnifier
f. Knives, scissors, brushes
g. Masking paper, masking sheets
h. Opaque solution
i. Tape
j. Register pins
k. Pin tabs

CLASSROOM HOURS	4

EVALUATION (G4)

Given appropriate materials and supplies, the student will strip a flat with four images (four negatives). The resulting product will be properly registered as judged by the instructor.

TASK

G5 Laying out and stripping flats with line and halftone combinations

PERFORMANCE OBJECTIVE

Layout and strip flats for line and halftone combinations.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Complementary flats (double printing)
b. Stripping halftones into windows
c. Line and halftone on one negative
d. First exposure
e. Second exposure
f. Processing the plate
g. Three basic ways to layout combinations of lines and halftones

Provide Practical Application On:

a. Layout line and halftone on one negative.
b. Strip halftones to clear acetate to minimize window hot spots.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Cogoli
b. Dennis and Jenkins

A/Vs:

PICA, "Stripping Line and Halftone Combinations"

Student Manuals:

a. Georgia, Unit 1CP-7
b. PICA, Stripping Line and Halftone Combinations

Equipment:

a. Light table
b. T-squares
c. Triangles
d. Tape, rulers
e. Thinner and rubber cement
f. Knives, scissors, brushes
g. Linen tester and magnifier

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CLASSROOM HOURS 4

EVALUATION (G5)

Given appropriate materials and supplies, the student will layout and strip a flat for a combination of line and halftone using the appropriate method. The resulting product will be properly registered in the judgement of the instructor.

INSTRUCTIONAL MATERIALS

Equipment:

h. Opaque solution
i. Clear acetate
j. Z-sided tape

TASK

G6 Using step and repeat technique to strip a multi-image flat

PERFORMANCE OBJECTIVE

Use step and repeat technique to strip a multi-image flat.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Definition of step and repeat
b. Register flat (taping the register flat)
c. Masking
d. Step and repeat procedure (making exposures)

Provide Demonstration On:

Step and repeat exposure procedure.

Provide Practical Application On:

Strip a flat using step and repeat technique and make a plate.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Cogoli
b. Broekhuizen

A/Vs:

PICA, "Step and Repeat"

Student Manuals:

a. Georgia, Unit 1CP-9
b. PICA, Step and Repeat

Equipment:

a. Light table
b. Platemaker
c. T-squares, triangles, rulers
d. Tape
e. Linen tester and magnifier
f. Knives, scissors, brushes

CLASSROOM HOURS 4

EVALUATION (G6)

Given appropriate supplies and equipment, the student will strip a multiple image flat of the same negative using step and repeat technique. The student's work must be neat and properly registered.

TASK

H1 Identifying parts and controls of a flip-top platemaker

PERFORMANCE OBJECTIVE

Identify the various parts and controls of a flip-top platemaker.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Main section of platemaker
    1. Power unit and base assembly
    2. Center section and control panel
    3. Vacuum frame
b. Controls
    1. Master on/off control
    2. Pilot lamp
    3. Timer
    4. Arc lamp switch
    5. Vacuum pump switch
    6. Vacuum gauze
    7. Vacuum release valve
    8. Vacuum bleed valve
c. Light sources
d. Purpose of vacuum frame

Provide Practical Application On:

Identifying parts and controls of flip-top platemaker

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Dennis and Jenkins
c. Platemaker operator's manual

Student Manuals:

Georgia, Unit 1CP-4

Equipment:

Flip-top platemaker (optional)

CLASSROOM HOURS 2

EVALUATION (H1)

Given a labeled diagram of a flip-top platemaker (or live platemaker), the student will identify the major parts and operating controls and explain the function of each.

TASK

H2 Identifying types of lithographic plates

PERFORMANCE OBJECTIVE

Select the proper plate for a printing job considering the cost and quality factors involved.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

- a. Direct image plates
  - 1. Characteristics
  - 2. Advantages
  - 3. Uses
  - 4. Production
- b. Photodirect plates
  - 1. Characteristics
  - 2. Advantages
  - 3. Advantages
- c. Silver diffusion transfer plates
  - 1. Process
  - 2. Storing the plates
- d. Xerographic plates
  - 1. Definition
  - 2. Equipment
- e. Electrostatic plates
  - 1. Use
  - 2. Enlargement and reduction
- f. Criteria for plate selection
- g. Plate ends
  - 1. Serrated or looped
  - 2. Pin bar punched
  - 3. Slotted or oval hole
  - 4. Straight
- h. Other types
  - 1. Diazo
  - 2. Photopolymer
  - 3. Deet-etch
- i. Multimetal plates
  - 1. Advantages
  - 2. Disadvantages

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit 1CP-3

CLASSROOM HOURS 2

EVALUATION (H2)

The student will identify the types of plates used, advantages and disadvantages of each and select the appropriate plate for a given job considering all cost and quality factors. The student's choices will be judged as to appropriateness by the instructor.

TASK

H3 Determining exposure and processing presensitized plates

PERFORMANCE OBJECTIVE

Determine the exposure of and process a presensitized plate.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Presensitized plates
    1. Advantage over old method
    2. Base coating
    3. Light sensitive
    4. Sizes and applications
    5. Flats
b. Equipment
    1. Platemaker
    2. Vacuum frame
    3. Light source
c. Exposing and processing a plate (procedure)
    1. Ultraviolet light
    2. Platemakers transparent gray scale
    3. Steps in procedure
d. Inspecting, cleaning and maintaining platemaking equipment

Provide Practical Application On:

a. Exposing a presensitized plate
b. Processing a presensitezed plate

INSTRUCTIONAL MATERIALS

Textbooks:

3-M Platemaker's Guide

A/Vs:

PICA, "Making a Presensitized Offset Plate"

Student Manuals:

a. Georgia, Unit 1CP-4
b. PICA, Making a Presensitized Offset Plate

Equipment:

a. Process camera
b. Litho plate developer
c. Gum
d. Desensitizer
e. Cheesecloth
f. Squeegee

CLASSROOM HOURS

2

EVALUATION (H3)

Given appropriate supplies and equipment, the student will correctly expose and process a presensitized plate according to the instructor's satisfaction.

TASK

H4 Making plates

PERFORMANCE OBJECTIVE

Operate a photo-direct platemaker to produce a plate.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Photo-direct presensitized plates
   1. Ready cut
   2. Role form
b. Types of machines exposing
c. Processing procedure for the plate
d. Application of photo-direct platemakers

Provide Demonstration On:

Operating a photo-direct platemaker

Provide Practical Application On:

Operate a photo-direct platemaker to produce a plate.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Equipment:

a. Photo-direct platemaker (ITEK Project-a-Lith, A-M Model 706, etc.)
b. Camera ready copy

CLASSROOM HOURS 2

EVALUATION (H4)

Given a photo-direct platemaker, camera ready copy and supplies, the student will process a plate according to the instructor's satisfaction.

TASK

H5 Preparing direct image masters

PERFORMANCE OBJECTIVE

Prepare a direct image master.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Direct image plates
b. Common uses of direct image plates
c. Imaging methods
    1. Hand method
    2. Mechanical
    3. Photo method
    4. Other methods (electrostatic, transfer, facsimile, etc.)
d. Handling precautions
e. Preserving direct image plates

Provide Demonstration On:

Preparing a direct-image plate using equipment available in lab

Provide Practical Application On:

Prepare a direct image plate.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

Georgia, Unit IMA-4

Equipment:

a. Direct image masters
b. Related plate-making equipment

CLASSROOM HOURS

4

EVALUATION (H5)

Given appropriate supplies and equipment, the student will prepare a direct image master according to the instructor's specifications.

TASK

H6 Using screen tints

PERFORMANCE OBJECTIVE

Follow the correct procedure for using screen tints.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Tonal values of commercial screen tint
b. Use of screen tints
c. Types of screen tint material
d. Double burning
e. Over-print
f. Dropout
g. Densities
h. Percentage values

Provide Demonstration On:

Choosing the appropriate screen tint for the job

Provide Practical Application On:

a. Use a screen tint to create black type on gray background.
b. Use a screen tint to create white type over gray background.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

Georgia, Unit PA-6

Equipment:

a. Sheets of screen tint
b. Copy to be screen tinted

CLASSROOM HOURS 6

EVALUATION (H6)

a. Given appropriate materials and supplies, the student will follow the correct procedure for using screen tints to produce a copy with black type on gray background. The instructor will check the student's work for accuracy.

b. Given appropriate materials and supplies, the student will follow the correct procedure for using screen tints to produce a copy with white type over a gray background. The instructor will check the student's work for accuracy.

TASK

I1 Identifying major printing processes

PERFORMANCE OBJECTIVE

Identify the different types of plates and processes for which they are used.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Basic image transfer process and short history of each
   1. Relief
   2. Planographic-lithographic-offset
   3. Intaglio-gravure
   4. Stencil-screenprinting
   5. Photographic stencil
b. Letter press - history of
c. Plates
d. Advantages and disadvantages of each process

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

Student Manuals:

a. Georgia, Unit 1CP-2
b. PICA, Direct Image Plates

CLASSROOM HOURS 2

EVALUATION (I1)

Given necessary information and equipment, the student will identify the different types of plates and related processes used in printing and state the relative advantages of each.

TASK

I2 Identifying basic methods of printing with plates

PERFORMANCE OBJECTIVE

Identifying the basic methods of printing with plates or masters and explain the differences between the methods.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Letter press
  1. Mirrored images
  2. Using flat forms of original
  3. Using duplicate plates

b. Gravure
  1. Gravure screen
  2. Copper gravure plate
  3. Chemical etching
  4. Scraper blade
  5. Rotogravure
  6. Intaglio method

c. Offset
  1. Image preparation
  2. Plate cylinder
  3. Blanket cylinder
  4. How the offset prints on the paper

Provide Demonstration On:

Provide examples of printed work resulting from letter press, gravure and offset. Point out differences in the types of work.

Provide Practical Application On:

List the characteristics of the three methods of printing.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

Georgia, Unit ORD-1-3

Equipment:

Examples of materials printed by different methods

CLASSROOM HOURS 2

EVALUATION (I2)

Given diagrams of the process, the student will identify Intaglio, letter press and offset methods of printing and list the basic characteristics of each.

TASK

I3 Identifying basic theory of offset printing

PERFORMANCE OBJECTIVE

Identify the basic theory of offset printing.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Grease and water do not mix.
b. The plate
    1. Image area (printing)
    2. Clear area (non-printing)
    3. Types of material
c. Water and ink balance
d. Cylinders of offset press
    1. Plate cylinder
    2. Blanket cylinder
    3. Impression cylinder
e. Two fountains on an offset
    1. Ink fountain
    2. Water fountain

Provide Practical Application On:

Wet a used master and place a drop of duplicating ink on it. Explain the results.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

Georgia, Unit ORD-1-4

Equipment:

Used metal plates

CLASSROOM HOURS 2

EVALUATION (I3)

Given necessary information and equipment, the student will correctly identify and describe the basic theory of offset duplication and identify the two materials which can be used to produce offset plates.

TASK

I4 Identifying basic principles of offset reproduction

PERFORMANCE OBJECTIVE

Identifying basic principles of offset reproduction using the offset duplicator.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Fundamental operating principle of the offset: Grease and water do not mix.
b. AB DICK Model 360
c. AB DICK Model 1600
d. AM Multilith 1275
e. Heidelberg Offset - letter set
f. Web using presses
g. Color presses
h. Six systems in an offset:
    1. Dampening
    2. Inking
    3. Feeding
    4. Register board
    5. Printing
    6. Delivery
i. Press controls and parts
    1. Water fountain reservior
    2. Water fountain control lever
    3. Ductor roller contact lever
    4. Water fountain control knob
    5. Water form roller control lever
    6. Single lever control
    7. Release lever for crank
    8. Crank for paper elevator

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INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit ORD-1-1

Equipment:

Offset press

CLASSROOM HOURS 6

EVALUATION (I4)

Given an offset duplicator, the student will identify the basic controls and describe the fundamental principle of offset duplication.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

9. Counter
10. Hand wheel
11. Vacuum feeder switch
12. Machine power switch
13. Speed control
14. Paper receiver
15. Ink form roller control knobs

Provide Demonstration On:

The parts and controls of an offset and their functions

Provide Practical Application On:

Identifying controls on an offset and describe their functions

TASK

I5 Identifying operating systems

PERFORMANCE OBJECTIVE

Identify the six operating systems of the offset duplicator.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

Offset operating systems
1. Dampening
2. Inking
3. Main printing
4. Feeder unit
5. Register board and sheet controls
6. Delivery

Provide Practical Application On:

Identify the six operating systems of an offset press or diagram.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

Georgia, Unit ORD-1-5

Equipment:

Offset press or diagram

CLASSROOM HOURS

2

EVALUATION (I5)

Given an offset press or a diagram, the student will identify and describe the six operating systems of the press.

TASK

I6 Identifying the systems of the printing unit

PERFORMANCE OBJECTIVE

Identify the basic parts of the printing unit in an offset duplicator.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Plate cylinder
b. Blanket cylinder
c. Impression cylinder
d. Cylinder design
    1. Three-main cylinder
    2. Four-main cylinder
    3. Two-main cylinder
    4. Perfecting press
    5. Multi-color press
    6. Common-impression-cylinder press

Provide Practical Application On:

Identify the three basic cylinders of the printing unit on a diagram.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

Georgia, Unit ORD-1-8

Equipment:

Diagram of a printing system

CLASSROOM HOURS 2

EVALUATION (I6)

Given a diagram of a printing unit of an offset press, the student will identify the three basic cylinders.

TASK

17 Identifying inking system

PERFORMANCE OBJECTIVE

Identify the parts of the inking system.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Ink fountain
b. Ink fountain roller
c. Ink ductor roller
d. Fixed distribution roller
e. Distribution rollers
f. Auxiliary vibrator roller
g. Fixed oscillating roller
h. Ink form rollers
i. Ink system preparation

Provide Practical Application On:

Identify the parts and rollers of the inking system on a diagram.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Cogoli
c. 3-M Pressman's Guide

Student Manuals:

Georgia, Unit ORD-1-7

Equipment:

Diagram of inking system

CLASSROOM HOURS

2

EVALUATION (I7)

Given a diagram of the inking system of an offset press, the student will identify the rollers and parts of the system.

TASK

I8 Identifying the components of the dampening system

PERFORMANCE OBJECTIVE

Identify the component parts of the dampening system.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Molleton system
    1. Uses separate inking and dampening rollers
    2. Fountain roller
    3. Fountain
    4. Ductor roller
    5. Oscillating roller
    6. Form roller

b. Aquamatic system
    1. Uses one set of rollers for ink and fountain
    2. Fountain roller
    3. Ductor roller
    4. Oscillating roller
    5. Ink form rollers

c. Fountain solutions

d. Dampening system preparation

Provide Practical Application On:

Identify the parts of the dampening system on a diagram.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen

b. 3-M Pressman's Guide

Student Manuals:

Georgia, Unit ORD-1-6

Equipment:

A diagram of dampening system

CLASSROOM HOURS 2

EVALUATION (I8)

Given a diagram of the dampening system of an offset duplicator, the student will accurately identify the parts.

TASK

I9 Identifying the parts of the paper feeding, register and delivery systems

PERFORMANCE OBJECTIVE

Identify the basic parts of the paper feeding, register and delivery system of the offset duplicator.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Paper feeding system
   1. Release lever
   2. Paper table
   3. Paper table crank
   4. Magazine guide lock lever
   5. Left and right guards
   6. Locating scale
   7. Paper supports
   8. Suction feet
   9. Sheet separators
   10. Blown tubes
   11. Paper height control bar and paper height control
   12. End guide

b. Register board preparation
   1. Jogger guide
   2. Graduate scale
   3. Vacuum switch
   4. Stationary guide
   5. Conveyor tapes
   6. Tape guides
   7. Paper retainers
   8. Tape rollers
   9. Multiple sheet detectors
   10. Adjusting knob (multiple sheet detector)
   11. Deflector

c. Delivery system
   1. Chute delivery
   2. Chain delivery

continued on back

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit ORD-1-9

Equipment:

Offset duplicator

CLASSROOM HOURS

4

EVALUATION (I9)

Given an offset duplicator, the student will accurately identify the basic parts of the paper feeding, register and delivery systems.

INSTRUCTIONAL ACTIVITIES

Provide Practical Application On:

Point to the parts of the feeding register and delivery systems and the offset duplicator in the lab.

TASK

I10 Operating the duplicator

PERFORMANCE OBJECTIVE

Operate the offset duplicator to run #to, 8-1/2" x 11" paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Preparing press
   1. Preparing ink unit
   2. Prepare dampening unit
   3. Installation of plate
b. Performing pressure checks
c. Preparation of feeder, sheet controls, delivery
d. Feeding test sheets, inspection of test sheets
e. Lateral, vertical and cocked image adjustments
f. Operating the press
g. Removing the master
h. Cleaning the blanket cylinder

Provide Demonstration On:

Operating the offset duplicator to run 8-1/2" x 11" paper

Provide Practical Application On:

Operate the offset duplicator to run 8-1/2" x 11" paper.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Cogoli

A/Vs:

PICA, "Setting Up the Offset Press for Printing"

Student Manuals:

Georgia, Unit ORD-6-1

Equipment:

a. Offset duplicator
b. #20, 8-1/2" x 11" paper

CLASSROOM HOURS

10

EVALUATION (I10)

Given an offset press, 8-1/2" X 11" paper and a plate, the student will set up the press and run copies according to correct procedure.

TASK

I11 Performing daily clean-up and maintenance

PERFORMANCE OBJECTIVE

Perform daily clean-up and maintenance checks of the offset duplicator.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Major clean-up versus daily clean-up
b. Parts of press which need daily clean-up and maintenance
c. Problems which may result due to neglect
d. Procedure for press clean-up
e. Storage of rollers

Provide Demonstration On:

Cleaning an offset duplicator

Provide Practical Application On:

Cleaning the offset duplicator

INSTRUCTIONAL MATERIALS

Textbooks:

Equipment service manuals

Student Manuals:

Georgia, Unit ORD-3-1

Equipment:

a. Cleaning rags
b. Solvents, etching solution
c. Kimwipes or equivalent

CLASSROOM HOURS

2

EVALUATION (I11)

Given an offset duplicator and cleaning supplies, the student will follow the correct procedure for clean-up and storing the rollers in the correct position.

TASK

I12 Performing major clean-up of an offset duplicator

PERFORMANCE OBJECTIVE

Perform major clean-up of an offset duplicator.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Rationale for press clean-up
b. Clean-up procedure
    1. Ink knife
    2. Cleaning solvent
    3. Cleaner sheet
    4. Squirt bottle
    5. Lifting out the rollers
c. Clean-up safety: Use metal safety cans for rags soaked with solvent.

Provide Demonstration On:

Procedure for major clean-up of press

Provide Practical Application On:

Major clean-up of press

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Cogoli

Student Manuals:

Georgia, Unit ORD-3-2

Equipment:

a. Ink knife
b. Cleaning solvent, squirt bottle
c. Cleaner sheets
d. Rags

CLASSROOM HOURS	4

EVALUATION (I12)

Given appropriate tools, materials and supplies, the student will follow correct procedure for performing major clean-up of the offset duplicator.

TASK

I13 Troubleshooting moisture problems

PERFORMANCE OBJECTIVE

Identify and eliminate problems of press copies related to moisture distribution on the offset duplicator.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Rationale for troubleshooting
b. Symptoms
c. Causes
d. Possible remedies
e. Terms
    1. Scumming
    2. Tinging
    3. Filling up
    4. Piling
    5. Set-off
    6. Varnishing
    7. Sticking
    8. Picking
    9. Roller stripping
    10. Spraying
    11. Mottling
    12. Gray type
    13. Chalking
    14. Running
    15. Hickey spots
f. Using the Macbeth reflection densitometer to get uniform ink coverage

Provide Demonstration On:

Troubleshooting several problems - examples of results

Provide Practical Application On:

Identifying moisture control problems on examples of printing jobs

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Dennis and Jenkins

Student Manuals:

Georgia, Unit ORD-5-1

Equipment:

Copies of printed materials which are poor due to moisture control problems

CLASSROOM HOURS 2

EVALUATION (I13)

Given copies of printed materials which are poor due to moisture control problems, the student will correctly identify the problem and suggest a remedy to adjust the problem.

TASK

I14 Identifying problems related to registration adjustments.

PERFORMANCE OBJECTIVE

Identify and eliminate problems related to press copy registration on the offset duplicator.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Vertical adjustment
b. Horizontal adjustment
c. Crooked image
d. Safety

Provide Demonstration On:

Adjusting registration on the offset duplicator

Provide Practical Application On:

Run copies and adjust offset duplicator for proper registration.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Cogoli
b. Dennis and Jenkins

Student Manuals:

Georgia, Unit ORD-5-2

Equipment:

a. Offset duplicator
b. Paper

CLASSROOM HOURS 4

EVALUATION (I14)

Given an offset duplicator, the student will run a job making the correct adjustments for accurate registration.

TASK

I15 Identifying and selecting offset printing inks

PERFORMANCE OBJECTIVE

Identify and select offset printing inks.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Ink requirements
b. Composition
    1. Vehicle
    2. Pigments
    3. Modifiers
c. Manufacturing process
    1. Preparing ingredients
    2. Mixing
    3. Grinding
    4. Testing
    5. Packaging
d. Ink terminology
e. Ink catalogs

Provide Demonstration On:

Selecting ink for a job

Provide Practical Application On:

Given a job to print, select the appropriate ink.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Cogoli
b. Dennis and Jenkins

Equipment:

Ink catalog

CLASSROOM HOURS 2

EVALUATION (I15)

Given a job to print, the student will select the appropriate ink for the job. The instructor will check the student's choice.

TASK

I16 Printing with ink other than black

PERFORMANCE OBJECTIVE

Print copies in red ink on #20 white paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Procedure for setting up press for operation (review)
b. Importance of cleaning the duplicator of all black ink
c. Performing major clean-up at end of run

Provide Practical Application On:

Run 50 sheets of #20 paper with red ink.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Cogoli

Student Manuals:

Georgia, Unit ORD-6-3

Equipment:

a. Offset duplicator
b. #20 paper
c. Red ink

CLASSROOM HOURS 2

EVALUATION (I16)

Given an offset duplicator, red ink and 50 sheets of #20 paper, the student will run a job with proper register, contrast and cleanliness.

TASK

I17 Using a metal plate

PERFORMANCE OBJECTIVE

Use a metal plate master on the offset duplicator to run #20 paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Installing a plate
b. Tightening the plate-clamp draw down screw
c. Wiping down master with solution such as Agfa-Gevaert CR 612B Lacquer
d. Removal and storage of master (offset gum solution)
e. Cleaning blanket cylinder

Provide Demonstration On:

Using a metal master

Provide Practical Application On:

Run copies using a metal plate on the offset duplicator.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

Georgia, Unit ORD-6-2

Equipment:

a. Metal plates
b. Offset duplicator
c. #20 paper

CLASSROOM HOURS

4

EVALUATION (I17)

Given an offset duplicator, metal plate and #20 paper, the student will run copies on #20 paper which are clean, legible and in proper registration.

TASK

I18 Using an electrostatic plate

PERFORMANCE OBJECTIVE

Produce an electrostatic plate.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Electrostatic process
   1. Like and unlike charges
   2. Polarity
   3. Tones
   4. Fusing
b. Electrostatic plates
   1. Description
   2. Applications
   3. Advantages
c. The A. B. Dick 675 master maker
   1. Controls
   2. Operation
d. Mounting the plate on the press

Provide Demonstration On:

Using the A. B. Dick 675 master maker to make an electrostatic plate and maintaining the plate on the press

Provide Practical Application On:

Use an A. B. Dick 675 master maker to produce a plate and mount the plate on the press.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Broekhuizen

A/Vs:

Prentice-Hall Media, "Plate Making"

Student Manuals:

Missouri, Graphic Arts, IE-33-5

Equipment:

a. A. B. Dick 675M
b. Copy

CLASSROOM HOURS

4

EVALUATION (I18)

Given a copy and an A. B. Dick 675M, the student will operate the master maker to produce an electrostatic plate and mount the plate correctly on the offset duplicator.

TASK

I19 Testing roller pressure

PERFORMANCE OBJECTIVE

Check roller pressure of the dampening system and make necessary adjustments according to manufactuer's specifications.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. When the roller pressure should be set
b. Manufacturer's instructions
    1. Order of procedure
    2. Rollers to be checked
    3. Recommended pressure
c. Procedure for testing and adjusting roller pressure

Provide Demonstration On:

Testing and adjusting roller pressure

Provide Practical Application On:

Test and adjust roller pressure.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Cogoli
b. Dennis and Jenkins

Student Manuals:

Georgia, Unit ORD-5-3

Equipment:

a. Offset duplicator
b. Test strips

CLASSROOM HOURS 4

EVALUATION (I19)

Given an offset duplicator, the student will test and adjust roller pressure according to manufacturer's specifications.

TASK

I20 Diagnosing problems related to blanket and blanket cylinder

PERFORMANCE OBJECTIVE

Diagnose and eliminate problems relating to blanket and blanket cylinder.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Blanket cylinder
b. Blanket
c. Preparing a new blanket, installing a new blanket
d. Care of blanket
e. Imperfections on copy caused by blanket cylinder
    1. Blanket to plate pressure
    2. Blanket to impression cylinder pressure
f. Maintaining blankets

Provide Demonstration On:

Installation of a blanket

Provide Practical Application On:

a. Install a blanket on the offset duplicator and check.
b. List ten possible imperfections caused by the blanket.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

Georgia, Unit ORD-5-4

Equipment:

a. Offset duplicator
b. Blanket

CLASSROOM HOURS

2

EVALUATION (I20)

Given an offset duplicator and a blanket, the student will correctly install the blanket and check for correct installation by running copies, evaluating copies and readjusting if necessary.

TASK

I21 Adjusting feed and delivery systems for 11" x 17" paper

PERFORMANCE OBJECTIVE

Adjust the feeding and delivery systems to run 11" x 17" paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Feeding system adjustments
b. Delivery system adjustments
c. Procedure for adjusting feeding and delivery systems for 11" x 17" paper

Provide Demonstration On:

Adjusting feeding and delivery systems to run 11" x 17" paper

Provide Practical Application On:

Adjust the feeding and delivery systems to run 11" x 17" paper.

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit ORD-2-2

Equipment:

a. 11" X 17" paper
b. Offset duplicator

CLASSROOM HOURS

4

EVALUATION (I21)

Given a stack of 11" X 17" paper and an offset duplicator, the student will make the appropriate adjustments to the feeding and delivery systems to run 11" X 17" paper. The instructor will check the adjustments for accuracy.

TASK

I22 Adjusting the press to print 3-1/2" x 5" notecard

PERFORMANCE OBJECTIVE

Adjust the feeding and delivery systems to print a 3-1/2" x 5" notecard.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Feeding system adjustments
b. Delivery system adjustments
c. Procedure for adjusting the feeding system and delivery system

Provide Demonstration On:

Adjusting feeding and delivery systems on the offset duplicator for 3-1/2" x 5" notecards

Provide Practical Application On:

Adjusting the offset duplicator to run 3-1/2" x 5" notecards

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Equipment:

a. 3-1/2" X 5" notecards
b. Offset duplicator

CLASSROOM HOURS 4

EVALUATION (I22)

Given an offset duplicator and a stack of 3-1/2" X 5" notecards, the student will make the proper adjustments to the feeding and delivery systems to run the cards. The instructor will check the adjustments for accuracy.

TASK

I23 Adjusting feeding and delivery systems for 4" x 9-1/2" legal envelopes

PERFORMANCE OBJECTIVE

Adjust the feeding and delivery systems to run 4" x 9-1/2" legal envelopes.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Feeding system adjustments
b. Delivery system adjustments
c. Procedure for adjusting feeding and delivery system to run 4" x 9-1/2" envelopes

Provide Demonstration On:

Adjusting the feeding and delivery systems to run 4" x 9-1/2" envelopes

Provide Practical Application On:

Adjust the feeding and delivery system to run 4" x 9-1/2" envelopes.

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit ORD-2-3

Equipment:

a. 4" X 9-1/2" envelopes
b. Offset duplicator

CLASSROOM HOURS

4

EVALUATION (I23)

Given a stack of 4" X 9-1/2" envelopes and an offset duplicator, the student will make the appropriate adjustments to the feeding and delivery systems to run 4" X 9-1/2" envelopes. The instructor will check the adjustments for accuracy.

TASK

I24 Printing both sides of a copy

PERFORMANCE OBJECTIVE

Print both sides of #20 opaque paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Opaque paper
b. Procedure for running two sides
c. Equipment which automatically runs both sides either by work-turn or work-tumble

Provide Practical Application On:

Run a job using 50 sheets of #20 opaque paper using either work and turn or work and tumble procedure.

Provide Demonstration On:

Running a job on both sides

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit ORD-6-6

Equipment:

a. Offset duplicator
b. #20 opaque paper

CLASSROOM HOURS	4

EVALUATION (I24)

Given an offset duplicator and 50 sheets of #20 opaque paper, the student will run a job on both sides with proper registration, cleanliness and contrast.

TASK

I25 Printing copies on 11" x 17" paper

PERFORMANCE OBJECTIVE

Duplicate copies on 11" x 17" paper with either black or colored ink.

INSTRUCTIONAL ACTIVITIES

Provide Information On:	Provide Practical Application On:
Procedure for setting up press for operation	Run a job using 11" x 17" paper.

INSTRUCTIONAL MATERIALS

Student Manuals:	Equipment:
Georgia, Unit ORD-6-4	a. Offset duplicator b. 11" X 17" paper

CLASSROOM HOURS 6

EVALUATION (I25)

Given an offset duplicator, a master and 11" X 17" paper, the student will run a job with proper registration, contrast and cleanliness.

TASK

I26 Printing signatures

PERFORMANCE OBJECTIVE

Print signatures for a book or pamphlet.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Signatures
b. Printing signatures
c. Importance of register
d. Two-side printing

Provide Practical Application On:

Print signatures for a pamphlet.

Provide Demonstration On:

Printing signatures

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit ORD-6-7

Equipment:

a. Offset duplicator
b. #20 paper

CLASSROOM HOURS 6

EVALUATION (I26)

Given an offset duplicator and #20 paper, the student will print signatures on two-press sheets which will be divided into an eight page pamphlet. The instructor will check for registration, contrast and cleanliness.

TASK

J1 Identifying manufacturing process in papermaking and finishing

PERFORMANCE OBJECTIVE

Identify manufacturing process in papermaking and finishing.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Classifications of paper
   1. Coarse
   2. Fine
b. Pulp and rags
c. Digester
d. Washing, screening, cleaning, bleaching
e. Pigments, dyes, resins
f. "Furnish"
g. Fourdrinier paper machine three sections of the maching
   1. Paper pouring
   2. Drying
   3. Finishing
h. Dryers

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Dennis and Jenkins

Student Manuals:

Georgia, Unit PF-1

CLASSROOM HOURS 4

EVALUATION (J1)

Given necessary information and materials, the student will identify the manufacturing process in papermaking and finishing.

TASK

J2 Determining special problems with paper felt size and wire side

PERFORMANCE OBJECTIVE

Determine the felt and wire side of paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Paper manufacturing process
b. Paper machine
    1. Felt side
    2. Wire side
c. Water mark (felt side)
d. Felt side ideal for printing
e. Identifying the wire side
f. Papers without a water mark
g. Methods of making water mark
    1. Dandy roll
    2. Rubber stamp

Provide Practical Application On:

Determine the felt and wire side of several sheets of printing paper.

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit SPP-1

Equipment:

Sheets of printing paper

CLASSROOM HOURS

2

EVALUATION (J2)

Given several sheets of printing paper, the student will identify the felt and wire sides of the paper with complete accuracy.

TASK

J3 Identifying paper grades and characteristics

PERFORMANCE OBJECTIVE

Identify paper grades and describe the characteristics of each.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Classifications of printing papers
    1. Bond
    2. Coated
    3. Text
    4. Book
    5. Offset
    6. Cover
    7. Index
    8. Newsprint
b. Basic weight
c. Basic size
d. Grades
e. Recycled paper
f. Calipers and weights
g. Weights of special size
    1. Constant factor schedule
    2. MM basis weight

Provide Practical Application On:

List and describe five different types of paper by type, general use, basic size, basic weight.

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

Student Manuals:

Georgia, Unit PF-2

CLASSROOM HOURS 2

EVALUATION (J3)

The student will demonstrate an understanding of paper grades and characteristics by listing at least five different types of paper and describing the general usage, basic size and basic weight of each. The instructor must determine an acceptable level of knowledge.

TASK

J4 Identifying paper grain direction

PERFORMANCE OBJECTIVE

Identify paper grain direction and its importance in printing and binding

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Grain (short, long)
b. Consideration of grain
    1. Folding
    2. Stiffness
    3. Cross direction
c. Testing for grain
    1. Bending
    2. Tearing
    3. Folding
    4. Wetting

Provide Practical Application On:

Identify grain on several reams of paper from label or wrapper.

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Equipment:

Several reams of paper, wrapped

Student Materials:

Georgia, Unit SPP-2

CLASSROOM HOURS 1

EVALUATION (J4)

Given an assortment of printing papers, the student will identify the direction of the grain, and explain its significance.

TASK

J5 Identifying special problems with paper shrinking and stretching

PERFORMANCE OBJECTIVE

Identify shrinking and stretching and how these factors affect printing paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

- a. Moisture
    - 1. Absorption causes stretching
    - 2. Drying causes shrinking
- b. Stretching and shrinking related to grain
- c. Long grain
- d. Humidity of paper and press room should be equal
- e. Seasoned paper

Provide Practical Application On:

Define moisture factor, shrinking, stretching, paper grain, grain long and seasoned paper.

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit SPP-3

CLASSROOM HOURS 1

EVALUATION (J5)

Given a sample of printing paper and storing condition, the student will correctly identify problems related to shrinking and/or stretching of the paper.

TASK

J6 Identifying types of paper

PERFORMANCE OBJECTIVE

Identify the uses of different types of paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Paper
    1. Special weight
    2. Basic size
    3. Constants (8-1/2" x 11", ream)

b. Basic papers
    1. Bond - common uses, requirements, characteristics
    2. Book - common uses, requirements, characteristics
    3. Bristol - common uses, requirements, characteristics
    4. Cover - common uses, requirements, characteristics
    5. Ledger - common uses, requirements, characteristics
    6. Offset - common uses, requirements, characteristics
    7. Text - common uses, requirements, characteristics
    8. Newsprint - common uses, requirements characteristics
    9. Duplicator - common uses, requirements, characteristics
    10. Mimeograph - common uses, requirements, characteristics

continued on back

INSTRUCTIONAL MATERIALS

Textbooks:

a. Cogoli
b. Dennis and Jenkins

A/Vs:

PICA, "Paper Calculations"

Student Manuals:

a. Georgia, Unit ORD-2-5
b. PICA, Paper Calculations

CLASSROOM HOURS

4

EVALUATION (J6)

a. Given examples of printed materials, the student will identify the basic type of paper generally used.

b. Given the weight of a ream of 17" X 22" paper, the student will figure the basic weight.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

c. Recycled paper
d. Calipers and weights
e. Weights of special sizes
Constant factor schedule

Provide Demonstration On:

Figuring paper weight

Provide Practical Application On:

Match basic paper types to common uses using examples of printed materials.

TASK

J7 Diagnosing and correcting special problems with paper runability and print quality

PERFORMANCE OBJECTIVE

Diagnose and correct runability and print quality as these factors affect the printing of any paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Paper factors affecting runability
   1. Flatness
   2. Trimming
   3. Dirt
   4. Moisture
   5. Pick resistance
   6. Water resistance
   7. Paper/ink relationship
   8. Mechanical conditions

b. Print quality factors
   1. Color
   2. Brightness
   3. Opacity
   4. Smoothness
   5. Gloss
   6. Refractiveness

c. Relative humidity of press room

Provide Demonstration On:

Effects of several conditions on printing paper runability and print quality

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit SPP-4

CLASSROOM HOURS	4

EVALUATION (J7)

Given necessary information and materials, the student will identify factors which affect runability and print quality of printing paper and the effects of these factors on runability and print quality.

TASK

J8 Ordering paper

PERFORMANCE OBJECTIVE

Identify the correct procedure for ordering paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

- a. Sheet and roll paper
  - 1. Packaging of sheet and method of selling
  - 2. Packaging of roll and method of selling
- b. Ream
- c. Packaging and pricing
  - 1. Package price
  - 2. Carton or bundle price
  - 3. 4-carton or 4-bundle prices
  - 4. 16-carton or 16-bundle price
  - 5. Carton assortment
  - 6. Wrapped goods equivalent
- d. Determining paper cost-typical breaking points

INSTRUCTIONAL MATERIALS

Textbooks:	Student Manuals:
Dennis and Jenkins	Georgia, Unit PF-3

CLASSROOM HOURS

2

EVALUATION (J8)

Given necessary information, the student will identify the correct procedure for ordering paper considering the most economical packaging and quantity.

TASK

J9 Identifying bindery methods and operations

PERFORMANCE OBJECTIVE

Identify and describe the general bindery methods and operations.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Purpose of finishing and binding
b. History
c. Safety in binding operation
d. Finishing methods
    1. Cutting
    2. Folding
    3. Scoring
    4. Perforating
    5. Gathering
    6. Punching and drilling
    7. Die cutting
    8. Hot stamping
    9. Laminating
e. Binding methods
    1. Mechanical
    2. Loose-leaf
    3. Wire staple
    4. Perfect binding
    5. Sewing
    6. Welding

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

A/Vs:

PICA, "Finishing and Binding"

Student Manuals:

Georgia, Unit BMO-1

CLASSROOM HOURS 2

EVALUATION (J9)

Given necessary information, the student will identify basic methods used in binding and finishing operations and describe the procedures and safety related to each.

TASK

J10 Identifying bindery and finishing procedures

PERFORMANCE OBJECTIVE

Identify and describe examples of work performed in bindery and finishing.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Eight basic methods of binding
    1. Saddle stitching
    2. Side stitching
    3. Saddle sewing
    4. Side sewing
    5. Adhesive binding
    6. Mechanical binding
    7. Loose leaf binding
    8. Smythe sewing
b. Ten finishing procedures
    1. Cutting and trimming
    2. Folding
    3. Scoring
    4. Perforating
    5. Gathering
    6. Punching
    7. Drilling
    8. Die cutting
    9. Hot stamping
    10. Laminating
c. Slitting, numbering and embossing
d. Facility layout of a printing plant
e. Smythe sewing
f. Hand casing a book
g. Endsheets
h. Rounding and backing a book
i. Attaching super adhesive bands

continued on back

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit 1BF-2

CLASSROOM HOURS

2

EVALUATION (J10)

Given necessary information and materials, the student will identify the types of work performed in bindery and finishing operations and demonstrate an understanding of the relationship of the operations to other printing jobs by drawing an accurate printing facility layout. The student's work must show a practical approach to bindery and finishing layout and will be judged appropriately by the instructor.

INSTRUCTIONAL ACTIVITIES

Provide Practical Application On:

Draw a floor plan for a print shop identifying all areas in finishing and binding.

TASK

J11 Identifying the systems approach to building occupational skills in bindery

PERFORMANCE OBJECTIVE

Identify and describe the systems approach to building occupational skills in bindery and finishing.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Methods used to obtain skills/competencies in bindery and finishing
   1. Four-year apprenticeship
   2. Classes and on-the-job training
   3. Entry-level employment skills and gain experience on the job

b. The multi-media approach to training

c. Three phases of learning
   1. Knowledge
   2. Activities
   3. Presentation

d. Arrangement of tasks

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit 1BF-3

CLASSROOM HOURS 4

EVALUATION (J11)

Given necessary information, the student will demonstrate an understanding of the systems approach to building occupational skills in finishing and binding and identify the three phases of learning an occupational task.

TASK

J12 Identifying careers in bindery and finishing procedures

PERFORMANCE OBJECTIVE

Identify and describe the careers available in bindery and finishing.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Bindery and finishing in relation to other printing operations
b. Bindery work
   1. Cutting
   2. Stapling
   3. Trimming
   4. Collating
   5. Gathering
   6. Gluing
   7. Stitching
c. Finishing
   1. Cutting
   2. Folding
   3. Punching
   4. Gathering
   5. Collating
d. Job classifications
e. Type of work performed
f. Knowledges, skills, activities required in each job
g. Packaging

Provide Practical Application On:

Answer questions in exercise relating to binding, finishing and packing operations.

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit 1BF-1

CLASSROOM HOURS

2

EVALUATION (J12)

Given necessary information, the student will identify the careers available in bindery and identify job classifications, type of work performed and knowledge required for each.

TASK

J13 Identifying the procedures for papercutting

PERFORMANCE OBJECTIVE

Identify and describe the correct procedures for cutting paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Paper sizes and weights
b. Paper classifications
c. Figuring paper cuts
   1. Mathematical method
   2. Diagram method
d. Paper cutters
   1. Hand lever type
   2. Hydraulic type
e. Cutter controls
f. Cutter safety
g. Operating the cutter
h. Special cuts

Provide Demonstration On:

Operating the cutter and cutter safety

Provide Practical Application On:

Operate the cutter.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Dennis and Jenkins
c. Campbell

A/Vs:

a. PICA, "Jogging and Cutting Paper"
b. McKnight, "Photo-Offset Fundamentals: Paper and Paper Cutting Calculations

Student Manuals:

a. Georgia, Unit FP-4
b. PICA, *Jogging and Cutting Paper*

Equipment:

a. Papercutter
b. Paper to be cut

CLASSROOM HOURS

2

EVALUATION (J13)

Given a papercutter and specifications, the student will cut the paper using the method which will make the maximum use of the paper.

TASK

J14 Cutting paper into standard press size

PERFORMANCE OBJECTIVE

Follow procedures for cutting size 17" x 22" paper into four 8½" x 11" standard press sheets.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Figuring paper cuts
b. Cutting pattern for 17" x 22" paper
c. Determining number of cut sheets
d. Safety

Provide Practical Application On:

Cut ten sheets of 17" x 22" paper into four stacks of 8½" x 11".

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit PC-1

Equipment:

a. Papercutter
b. Paper (17" X 22")

CLASSROOM HOURS

1

EVALUATION (J14)

Given a papercutter and ten sheets of 17" x 22" paper, the student will accurately cut the paper into four stacks of 8½" x 11" paper and determine the quantity of 8½" x 11" sheets. Paper must be cut perfectly square and must have neat, evenly trimmed edges.

TASK

J15 Cutting paper into six practical sizes

PERFORMANCE OBJECTIVE

Follow procedures for cutting 17" x 22" paper into one of six practical sizes.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Figuring paper cuts
b. Cutting patterns for 17" x 22" paper (4,8, 16,24,32) (2 3/4 x 4¼, 2 1/8 x 5½)
c. Determining number
d. Safety
e. Trimming

Provide Practical Application On:

Cut a stack of 17" x 22" paper into one of six practical sizes.

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit PC-2

Equipment:

a. Papercutter
b. 17" X 22" paper

CLASSROOM HOURS 2

EVALUATION (J15)

Given a papercutter and ten sheets of size 17" x 22" paper, the student will accurately cut the paper into six stacks and determine the number of cut sheets which are practical in size and make maximum use of the stock. Paper must be cut perfectly square and have neat, evenly trimmed edges.

TASK

J16 Cutting paper into eight practical sizes

PERFORMANCE OBJECTIVE

Follow the procedures for cutting paper 22½" x 28½" into one of eight practical sizes.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Figuring paper cuts
b. Cutting patterns for 22½" x 28½" paper
    1. 4 11¼ x 14¼"
    2. 8 7 1/8" x 11"
    3. 16 5 5/8" x 7 1/8"
    4. 24 3 3/4" x 7 1/8"
    5. 12 4 3/4" x 11 ¼"
    6. 24 4 3/4" x 5 5/8"
    7. 36 3 3/4" x 4 3/4"
    8. 72 2 3/8" x 3 3/4"
c. Determining number of cut sheets
d. Safety
e. Trimming

Provide Practical Application On:

Cut a stack of ten sheets 22½" X 28½" into one of 8 practical sizes.

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit PC-4

Equipment:

a. Papercutter
b. 22½" X 28½" paper

CLASSROOM HOURS 2

EVALUATION (J16)

Given a papercutter and ten sheets size 22½" and 28½" paper, the student will accurately cut the paper into one of eight practical sizes and determine the total number of sheets cut. The instructor will evaluate the student's work based on accuracy of cut and economics of sizes chosen.

TASK

J17 Cutting paper into five practical sizes

PERFORMANCE OBJECTIVE

Follow the procedures for cutting size 25" x 38" paper into one of five practical divisions.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Figuring paper cuts
b. Cutting patterns for 25" x 38" paper
    1. 4 12½ x 19"
    2. 8 9½" x 12½"
    3. 16 6¼" x 9½"
    4. 32 4 3/4" x 6¼"
    5. 64 3 1/8" x 4 3/4"
c. Determining number of cut sheets
d. Safety
e. Trimming

Provide Practical Application On:

Cut size 25" x 38" paper into one of five practical cuts.

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit PC-3

Equipment:

a. Papercutter
b. Size 25" X 38" paper

CLASSROOM HOURS 2

EVALUATION (J17)

Given a papercutter and 10 sheets of size 25" x 38" paper, the student will correctly cut the paper into one of the five practical sizes and determine the total number of sheets. The instructor will evaluate the student's work based on accuracy and economics of the cut.

TASK

J18 Gathering, inserting and collating paper

PERFORMANCE OBJECTIVE

Follow correct procedures for gathering, inserting and collating.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Method of assembly
    1. Gathering
    2. Inserting
    3. Collating
b. Book signatures
c. Manual gathering
d. Automatic gathering - swing arm gathering system
e. Collating
    1. PB Gathermate 8
    2. GBC Automatic 8
    3. Thomas Rotomatic
    4. Didde-Glaser Gather-All

Provide Demonstration On:

a. Collating sheets
b. Gathering sheets
c. Inserting sheets

Provide Practical Application On:

Gathering, inserting and collating sheets

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit BMO-4

CLASSROOM HOURS

1

EVALUATION (J18)

a. Given necessary information, the student will identify the procedures used for gathering, collating and inserting and describe the most commonly used methods for each procedure.

b. Provided with sheets and equipment, the student will gather, collate and insert (when necessary) sheets provided. The student's work must be completed accurately and neatly.

TASK

J19 Operating the folder

PERFORMANCE OBJECTIVE

Adjust and operate the folding machine for various folds.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Manual folding
b. Upper fold plate setting
c. Lower fold plate setting
d. Deflector lever
e. Adjusting the feeding system
f. Safety
g. Making only 1 fold (upper fold plate)
h. Positioning the guide rollers
i. Positioning guide rails
j. Stacking spring and paper guides
k. Using the electro-jogger
l. Sequence

Provide Demonstration On:

Operating the folder

Provide Practical Application On:

Fold 50 sheets of paper on the machine.

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit FP-3

Equipment:

Folding machine

CLASSROOM HOURS

2

EVALUATION (J19)

Given 50 sheets of paper, the student will correctly adjust and operate the folder to fold the sheets. The sheets will be folded straight and in proper sequence.

TASK

J20 Identifying types of folders

PERFORMANCE OBJECTIVE

Identify and describe the two types of folders.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Types of folders
   1. Knife folder
   2. Buckle folder
b. Operation of knife folder
c. Operation of buckle folder
d. Sizes of folders
   1. XHD table top folder
   2. Large floor model
   3. Baum folder
e. Folder attachments

INSTRUCTIONAL MATERIALS

Textbooks:	Student Manuals:
Broekhuizen	Georgia, Unit FP-2

CLASSROOM HOURS 2

EVALUATION (J20)

Given necessary information, the student will accurately list the two basic types of folders, describe the correct operation of each and give examples of the capacity of both large and small folders.

TASK

J21 Demonstrating the types of folds used for printed documents

PERFORMANCE OBJECTIVE

Identify and describe the six types of folds generally used in printing.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

- a. Folding paper - signature
- b. Types of folds
  - 1. Parallel folds
  - 2. Right angle folds
- c. Common folds
  - 1. Single fold
  - 2. Parallel letter fold
  - 3. Accordian fold
  - 4. Panel or gate fold
  - 5. French fold
  - 6. Booklet fold
- d. Types of folders
  - 1. Knife folder
  - 2. Buckle folder
- e. Operating folders
  - 1. Upper fold plate
  - 2. Lower fold plate
  - 3. Deflector lever
- f. Adjusting the feeding system
- g. Folder safety

Provide Practical Application On:

Given examples, list and define common folds and determine the types.

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit FP-1

CLASSROOM HOURS 2

EVALUATION (J21)

Given several examples of folded material, the student will correctly identify the type of fold, the name of the fold and describe its general usage. The student's responses must be accurate.

TASK

J22 Storing and slitting paper

PERFORMANCE OBJECTIVE

Score and slit paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Finishing operations
   1. Scoring
   2. Perforating
   3. Slitting
   4. Die cutting
   5. Numbering
   6. Embossing
   7. Laminating
   8. Applying gummed holland
   9. Round cornering

b. Heavy papers and light papers

c. Sharp steel rule

d. Scoring machinery

e. Slitting machinery

Provide Practical Application On:

a. Diagram a typical scoring operation.

b. Diagram a typical slitting operation.

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia Unit BMO-2

CLASSROOM HOURS 4

EVALUATION (J22)

Given necessary information, the student will identify and describe scoring and slitting and draw a diagram of a typical operational set-up for each process.

TASK

J23 Drilling paper

PERFORMANCE OBJECTIVE

Follow the correct procedure for drilling paper.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Loose-leaf binding
b. The drill
c. Depth stop
d. Cutting block
e. Table
f. Back guide or fence
g. Paper stops
h. Side guide roller
i. Foot pedal
j. Pressure foot
k. Operating the paper drill
l. Paper drill safety
m. Locating holes
n. Determining hole size
o. Wax
p. Carbon stick
q. Drift
r. Allen wrench

Provide Demonstration On:

Drilling paper to fit a three-ring binder

Provide Practical Application On:

Drill 50 sheets of paper to fit a three-ring binder.

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit BMO-7

Equipment:

Paper drilling machine

CLASSROOM HOURS 4

EVALUATION (J23)

Given 50 sheets of paper and a paper drilling machine, the student will accurately drill the paper to fit a standard three-ring loose leaf binder. Paper should fit the binder without binding.

TASK

J24 Padding and gluing paper

PERFORMANCE OBJECTIVE

Follow the correct procedure for padding and gluing.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Perfect binding
b. Materials needed for perfect binding
c. Procedure for perfect binding
d. Gluing versus perfect binding
e. Uses of gluing and padding
f. Procedure for gluing

Provide Demonstration On:

a. Perfect binding (optional)
b. Gluing and padding (optional)

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

Student Manuals:

Georgia, Unit BMO-3

Equipment:

a. Perfect binder (optional)
b. Hot glue pot and brush

CLASSROOM HOURS 1

EVALUATION (J24)

Given necessary information, the student will identify procedures used in perfect binding, padding and gluing and describe the uses for each procedure.

TASK

J25 Stitching and stapling final products

PERFORMANCE OBJECTIVE

Follow the correct procedures for stitching and stapling.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Binding methods
   1. Saddle sewing
   2. Side sewing
   3. Saddle stitching
   4. Side stitching
   5. Adhesive binding
   6. Mechanical binding
   7. Loose leaf
   8. Smythe sewing
b. Binding thread
c. Wire staples
d. Stitcher/stapler
e. Procedures for stitching and stapling
f. Soft-cover binding
g. Self-cover
h. Stitching head
i. Gluing
j. Stop point

Provide Demonstration On:

How to perform the various stitching and stapling functions

Provide Practical Application On:

Stitching and stapling final products

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit BMO-5

CLASSROOM HOURS 1

EVALUATION (J25)

Given necessary instructions and materials, the student will identify stapling and stitching operations and correctly describe the procedures used in each operation. In addition the student will demonstrate an ability to perform stitching and stapling operations assigned by the instructor. The final product should be neat, accurately bound and free of flaws.

TASK

J26 Binding books through mechanical means (wire spiral and plastic comb)

PERFORMANCE OBJECTIVE

Follow the correct procedure for mechanical binding.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Mechanical binding
  1. Plastic comb binder
  2. Wire spiral binder
b. Sizes of plastic combs
c. Slotted holes for plastic combs
d. Spreader
e. Pre-coiled wire
f. Crimping wire ends

Provide Demonstration On:

a. Using a plastic comb binder
b. Using a wire spiral binder

Provide Practical Application On:

a. Use a plastic comb binder to punch and bind several booklets.
b. Use a wire spiral binder to bind several booklets.

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit BMO-6

Equipment:

a. GBC or equivalent plastic comb binder
b. Wire spiral binder

CLASSROOM HOURS 6

EVALUATION (J26)

Given several small booklets, the student will identify the two most commonly used methods of mechanical binding and punch and bind the booklets using a plastic comb binder or a wire spiral binder. The resulting product should be neatly and accurately bound without noticeable flaws.

TASK

K1 Performing message analysis

PERFORMANCE OBJECTIVE

Perform message analysis by analyzing the nine factors that must be considered to produce an effective message.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Analyzing the message
    1. Age of reader
    2. Sex of reader
    3. Social status of reader
    4. Economic level of reader
    5. Personality of reader
    6. Intelligence of reader
    7. Reading ability of reader
    8. Attitude of reader
    9. Interest of reader

b. Readability of the message

c. Size, shape and type of material to print message on

d. Ink and paper color
    1. Cool
    2. Warm

e. Message content, color shape, size, typestyle

Provide Practical Application On:

Analyze a message in terms of all factors which affect message impact and critique of the message.

INSTRUCTIONAL MATERIALS

Textbooks:

Broekhuizen

Student Manuals:

Georgia, Unit JPL-1

Equipment:

Examples of printed messages

CLASSROOM HOURS 2

EVALUATION (K1)

Given an example of a printed message, the student will identify the factors in message analysis and analyze the message to determine its effectiveness.

TASK

K2 Identifying specifications for a printing job

PERFORMANCE OBJECTIVE

Identify the elements required to specify a printing job.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Layouts
b. Instructions on layout
c. Customer approval of layout
d. Who prepares layout
  1. In small shop
  2. In large shop
e. Equipment and materials required
f. Thumb-nail sketches
g. Rough

Provide Demonstration On:

a. Laying out thumb-nail and rough sketches
b. Visit a print shop to see how jobs are specified per customer request.

Provide Practical Application On:

Use role playing to have one student act as customer and another as shop employee to specify layout according to customer's specifications and prepare a thumb-nail and rough sketch of the job.

INSTRUCTIONAL MATERIALS

Textbooks:

Cogoli

Student Manuals:

A.B. Dick, *Decision Making*

CLASSROOM HOURS

4

EVALUATION (K2)

Given customer's specifications, the student will rough out a layout to specify the job according to the customer's request. The instructor will check the student's work for accuracy.

TASK

L1 Selecting a job and making a film positive

PERFORMANCE OBJECTIVE

Select an appropriate project and prepare an acceptable film positive for a photographic screen.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Photographic stencils
b. Presensitized film method
c. Indirect photographic method
d. Choosing a project

Provide Demonstration On:

a. Selecting a project
b. Making a film positive

Provide Practical Application On:

a. Selecting a project
b. Making a film positive

INSTRUCTIONAL MATERIALS

Textbooks:

a. Carlsen
b. Dennis and Jenkins
c. Eisenberg and Kafka

A/Vs:

PICA, "Screen Printing"

Student Manuals:

a. Georgia, Unit SP-2-1
b. PICA, Screen Printing

Equipment:

a. Photographic stencil film
b. Tracing paper
c. Kodak duplicating film
d. Dry transfer letters
e. Tape
f. Paper
g. Developer solution A and B
h. Scissors
i. Clipboard
j. Opaque paper
k. Plate maker
l. Developing trays
m. Running water

CLASSROOM HOURS

10

EVALUATION (L1)

Given appropriate materials, supplies, equipment and criteria for project selection, the student will select a project and prepare an acceptable film positive for a photographic screen. The instructor will check the student's work for accuracy.

TASK

L2 Identify printing done by silk screen process

PERFORMANCE OBJECTIVE

Identify printing done by the silk screen process.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Stencil image transfer method
b. Types of fabric used
c. Uses of screen printing
d. Drawbacks or limitations of the process
e. Types of screen printing equipment

Provide Demonstration On:

Identifying screen printed materials in the lab

Provide Practical Application On:

Identifying screen printed materials

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Carlsen
c. Dennis and Jenkins
d. Eisenberg and Kafka

Student Manuals:

Georgia, Unit SP1-1

Equipment:

Various examples of silk screened materials

CLASSROOM HOURS 1

EVALUATION (L2)

Given various examples of printed materials, the student will identify printing done by the silk screen process. The student will also identify at least ten silk screen items displayed in the laboratory.

TASK

L3 Identifying and using equipment and inks for hand method screen printing

PERFORMANCE OBJECTIVE

Identify the types of equipment and ink necessary to print using hand screen process printing methods.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Screen frames
b. Screen board or base
c. Registration guides
d. Side kick
e. Squeegee
f. Types of ink
    1. Water base
    2. Oil base
    3. Synthetic enamels
    4. Lacquer base
    5. Special formulations (optional)
g. Screen printing procedure

Provide Demonstration On:

Hand process screen printing

Provide Practical Applicaition On:

Identifying types of equipment and ink types used in screen printing (hand process)

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Dennis and Jenkins

Student Manuals:

Georgia, Unit SP-1-6

Equipment:

a. Screen printing set-up
b. Four types of ink

CLASSROOM HOURS 4

EVALUATION (L3)

Given examples of screen printing equipment and four types of ink used in hand screen printing processes, the student will name the parts of the equipment and their uses and the four main types of ink used with complete accuracy.

TASK

L4 Identifying and using types of drying equipment and drying racks used in the hand-screen-printing process

PERFORMANCE OBJECTIVE

Identify the types of equipment and racks used for drying jobs in the hand-screen-printing process.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Use of drying equipment
b. Types of drying equipment
   1. Wooden racks
   2. Metal racks
   3. Wicket dryers
   4. Drying ovens
   5. Infrared lamps
   6. Drying line

Provide Practical Application On:

Identifying various drying equipment in the laboratory or in the illustrations

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Dennis and Jenkins
c. Eisenberg and Kafka

Student Manuals:

Georgia, Unit SP-2-4

Equipment:

Illustrations or live examples of drying equipment

CLASSROOM HOURS 1

EVALUATION (L4)

Given illustrations or live examples of various drying equipment in the laboratory, the student will correctly identify and describe its use.

TASK

L5 Building a silk screen frame

PERFORMANCE OBJECTIVE

Build a silk screen frame that is square and sturdy.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

Constructing a silk screen frame:

1. Half-lap boards
2. Nailing and gluing joints
3. Mitered ends (optional)
4. Doweled joints (optional)

Provide Demonstration On:

Constructing a silk screen frame according to print sheet

Provide Practical Application On:

Constructing a silk screen frame according to print sheet

INSTRUCTIONAL MATERIALS

Student Manuals:

Georgia, Unit SP-1-2

Equipment:

a. Wood
b. Nails
c. Glue
d. Miter box
e. Corrugated fasteners
f. Dowels
g. Drill
h. Clamp

CLASSROOM HOURS 8

EVALUATION (L5)

Given appropriate specifications, tools and materials, the student will construct a silk screen frame that is square and sturdy.

TASK

L6 Stretching and cleaning silk

PERFORMANCE OBJECTIVE

Stretch silk tightly on a frame and clean the silk.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Screen printing equipment
   1. Frame
   2. Fabric
   3. Cutting tools
   4. Drying equipment
b. Screen printing supplies
   1. Film and chemicals
   2. Ink and solvents
   3. Wiping cloths

Provide Demonstration On:

a. Stretching silk using staples
b. Stretching silk using cord and groove
c. Washing the silk

Provide Practical Application On:

a. Stretching silk using staples
b. Stretching silk using cord and groove
c. Washing the silk

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Dennis and Jenkins

Student Manuals:

Georgia, Unit SP-1-3

Equipment:

a. Frame
b. Fabric
c. Cutting tools
d. Drying equipment
e. Staples
f. Cord
g. Mallet

CLASSROOM HOURS 1

EVALUATION (L6)

a. Given appropriate tools, supplies and equipment, the student will stretch the silk on a frame so that it is tight, smooth and has no wrinkles.

b. The student will clean the silk so that it will bond firmly to a stencil.

TASK

L7 Prepare and adhere a hand cut screen stencil

PERFORMANCE OBJECTIVE

Prepare a hand cut screen stencil and adhere the stencil to a screen with adhering liquid.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Types of stencils
b. Stencil mounting
    1. Attaching frame to base
    2. Cutting designs (paper and film)
    3. Locating register guide
    4. Registering stencil to original copy
    5. Gluing stencil in position
c. Stress safety in use of flammable materials.

Provide Demonstration On:

a. Cutting the stencil
b. Adhering the stencil

Provide Practical Application On:

a. Cutting the stencil
b. Adhering the stencil

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Carlsen

Student Manuals:

a. Georgia, Unit SP-1-4
b. PICA, Screen Printing

A/Vs:

PICA, "Screen Printing"

Equipment:

a. Printing frame
b. Film
c. Cutting tools
d. Masking tape
e. Art work
f. Adhering liquid
g. Wiping cloth

CLASSROOM HOURS 2

EVALUATION (L7)

Given appropriate tools, materials and specifications, the student will prepare a hand cut screen stencil and adhere the stencil to the printing frame. The stencil should be properly registered and the area should be free of all paint, dust, dirt or excess glue.

TASK

L8 Making a photographic screen

PERFORMANCE OBJECTIVE

Make a photographic screen suitable for running a one-color job.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Exposing the film
b. Selecting proper size frame
c. Developing film
d. Preparation of film
e. Pressing screen into film
f. Blotting and drying film

Provide Demonstration On:

Preparing a photographic screen

Provide Practical Application On:

Preparing a photographic screen

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

Student Manuals:

Georgia, Unit SP-2-2

Equipment:

a. Printing frame
b. Film
c. Glass or hardboard
d. Vacuum frame
e. Developer
f. Developer trays, bottles
g. Running water (warm)
h. Screen materials
i. Blotter
j. Roller
k. Tape

CLASSROOM HOURS	6

EVALUATION (L8)

Given appropriate supplies and equipment, the student will make a photographic screen suitable for one-color printing. The screen should have no leaks or holes. The instructor will check to see if the student has:

1. Peeled the backing off the film
2. Cleaned the film back
3. Properly masked the screen

TASK

L9 Running a one-color photographic screen

PERFORMANCE OBJECTIVE

Print a one-color job using a photographic screen.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Direct photosensitive screens
b. Sensitizing a screen
c. Preparing emulsion
d. Coating a screen
e. Storing dry, sensitized screens

Provide Demonstration On:

Printing in one-color using a photographic screen

Provide Practical Application On:

Printing a one-color photographic screen

INSTRUCTIONAL MATERIALS

Textbooks:

Dennis and Jenkins

Student Manuals:

Georgia, Unit SP-2-3

Equipment:

a. Squeegee
b. Stock
c. Ink
d. Solvent
e. Newsprint
f. Rags
g. Solvent for ink

CLASSROOM HOURS 4

EVALUATION (L9)

Given appropriate tools, supplies and equipment, the student will print a job in one-color using a photographic screen. The printed image must be clear without runs or smudges and must be aligned according to the original design.

TASK

L10 Running a one-color poster

PERFORMANCE OBJECTIVE

Register and print a poster using one color of ink.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Hand cut film/paper stencil method
b. Tusche stencil method
c. Lacquer soluble film
d. Water soluble film
e. Types of film
f. Stencil preparation
g. Adhering the stencil
h. Block out
i. Inks
j. Solvents
k. Packaging posters for delivery

Provide Demonstration On:

a. Printing with hand cut film/paper stencil
b. Printing using tusche stencil method

Provide Practical Application On:

a. Printing with hand cut film/paper stencil
b. Printing using tusche stencil method

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Carlsen
c. Dennis and Jenkins

Student Manuals:

Georgia, Unit SP-1-5

Equipment:

a. Silk screen frame
b. Stencil
c. Poster ink
d. Squeegee
e. Newspaper
f. Clean-up rags
g. Cardboard spatulas
h. Ink solvent
i. Container for clean-up materials
j. Poster board cut to size

CLASSROOM HOURS 4

EVALUATION (L10)

Given appropriate materials and equipment, the student will print a poster in one-color ink using appropriate procedure. The student will package poster for delivery and will clean and store all materials and equipment.

TASK

L11 Screening on three-dimensional objects

PERFORMANCE OBJECTIVE

Print a one-color hand cut or photographic stencil of not more than ten impressions on a metal or plastic object with flat surfaces

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Colors and color mixing
    1. Color-oil base
    2. Solvent thinner
    3. Mixing varnish
    4. Extender base
b. Other pigments
    1. Commercial water soluble textile prints
    2. Non-heat-setting textile prints
    3. Sizing and priming pigments
    4. Metalling pigments
    5. Da-glo
    6. Phosphorescent pigments
    7. Adhesives
    8. Vinyl plastics
    9. Water tempera
    10. Powdered tempera
    11. Finger paint
    12. Other water soluble paints (aqua process, Nu-Media, etc.)

Provide Demonstration On:

Screening a three-dimensional object

Provide Practical Application On:

Screening a three-dimensional object

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Eisenberg and Kafka

Student Manuals:

Georgia, Unit SP-3-1

Equipment:

a. Squeegee
b. Stock
c. Paint
d. Thinner and/or extender
e. Newsprint
f. Rags
g. Cleaning solvent
h. Frame
i. Special drying jig

CLASSROOM HOURS 6

EVALUATION (L11)

Given appropriate materials, supplies and equipment, the student will screen print a three dimensional object of plastic or metal in one-color using a hand cut or photographic stencil of not more than ten impressions. The instructor will check:

1. Quality of screened image
2. Clean-up and storage of materials and equipment

TASK

M1 Identifying properties of light

PERFORMANCE OBJECTIVE

Identify properties of light in terms of tonality and contrast.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Light
b. Tonality
    1. Implications of light and dark
    2. Colors
c. Contrast
    1. High key
    2. Low key
d. Emphasis (the Chiarasaro effect)
e. Seeing light "qualitatively"

Provide Demonstration On:

Show how a light source from different directions to the subject makes a difference.

Provide Practical Application On:

Explain the implications of light and dark areas in a photograph.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Kodak, How to Make Good Pictures
b. Dennis and Jenkins

A/Vs:

a. PICA, "Introduction to Photography"
b. Kodak, "Color: As Seen With Light"
c. Kodak, "Worth How Many Words"
d. Kodak, "Ideas Won't Keep"
e. Kodak, "Images for Imagination"

Equipment:

a. Subject
b. Light source (natural or artificial)

CLASSROOM HOURS 4

EVALUATION (M1)

Given an overview of the properties of light as they relate to photography, the student will accurately explain the implications of light and dark areas in a photograph.

TASK

M2 Identifying characteristics of perspective

PERFORMANCE OBJECTIVE

Identify characteristics of perspective in terms of size, relationships, camera angle and distortion.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Perspective means point of view
b. Size relationships
c. Camera angle
d. Correcting perspective
e. The meaning of camera angle
    1. Looking down
    2. Looking up

Provide Practical Application On:

Describe the effects of camera angle and perspective in several photographs with different perspectives.

INSTRUCTIONAL MATERIALS

Textbooks:

Kokak, How to Make Good Pictures

A/Vs:

AECT Publications, "How Does a Picture Mean?"

Equipment:

A series of photographs with various camera angles and differing perspectives

CLASSROOM HOURS 6

EVALUATION (M2)

Given several photographs, each with different perspectives, the student will interpret the effects of camera angle and perspective on the impact or meaning of the picture. The interpretation must meet the instructor's specifications.

TASK

M3 Identifying the rules of composition

PERFORMANCE OBJECTIVE

Identify the basic rules of composition used on a series of photographs.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Selecting and isolating the subject
b. Center of interest
c. Rule of thirds (placing horizons)
d. Mergers
e. Fill the frame
f. Cluttering
g. Subject moves into frame
h. Use foreground object
i. Leading lines
j. Diagonal lines
k. Horizontal and vertical composition
l. Elements of composition
    1. Form
    2. Tone
    3. Space
    4. Line
    5. Texture
    6. Rhythm
m. Contrast

Provide Practical Application On:

Identify the compositional rules used in several photographs.

INSTRUCTIONAL MATERIALS

Textbooks:

Kodak, How to Make Good Pictures

A/Vs:

Kodak, "The Beginning of Composition"

Equipment:

Several photographs employing varying rules of composition

CLASSROOM HOURS

6

EVALUATION (M3)

Given several photographs, each employing different rules of composition, the student will accurately identify the compositional rule employed.

TASK

M4 Identifying the basic parts of a camera

PERFORMANCE OBJECTIVE

Identify the basic parts of a camera and describe the purpose of each part.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Basic parts of a camera
   1. Light-tight box
   2. Holder and transport system for film
   3. A lens
   4. A diaphragm
   5. A shutter
   6. A view finder

b. Purpose of each part

Provide Practical Application On:

On a camera or diagram, identify the basic parts.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Kodak, How to Make Good Pictures

Equipment:

Camera or diagram

A/Vs:

Kodak, "Photography— How it Works"

CLASSROOM HOURS 6

EVALUATION (M4)

Given a camera or diagram, the student will correctly explain the basic parts of the camera and the functions of each.

TASK

M5 Identifying basic types of cameras

PERFORMANCE OBJECTIVE

Identify basic types of cameras and describe the purpose of each.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Rationale for different types of cameras
b. Range finder
c. SLR (35 mm)
d. SLR (large format roll film)
e. TLR
f. View cameras
g. Special purpose cameras
    1. Polaroids
    2. Half-frame 35 mm
    3. Underwater cameras
h. Choosing the camera for a job

Provide Practical Application On:

a. Identify the type of camera, either live or from an illustration or picture and describe its purpose.
b. Given a job, choose the right type of camera and tell why.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Kodak, How to Make Good Pictures

Equipment:

Live or pictures of several types of cameras

CLASSROOM HOURS 8

EVALUATION (M5)

a. Given pictures or live examples of several types of cameras, the student will accurately identify the camera type and describe its purpose.

b. Given specifications for a job, the student will choose the appropriate camera and justify the choice. The choice must be in accordance with the instructor's.

TASK

M6 Using exposure controls

PERFORMANCE OBJECTIVE

Use exposure controls on the camera and calculate equivalent exposures.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Aperture— f-stop
b. Shutter speed
c. Relationship of f-stop to light reaching film
d. Maximum aperture of a lens
e. Effects of changes in shutter speed
f. Equivalent exposures
g. Automatic cameras
h. Exposure value system (EVS)

Provide Practical Application On:

Given exposure information, determine equivalent exposures by:

1. Varying the f-stop
2. Varying the shutter speed

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Kodak, How to Make Good Pictures

Equipment:

Adjustable camera

CLASSROOM HOURS 6

EVALUATION (M6)

Given specifications for correct exposure, the student will adjust the camera for equivalent exposures by varying aperture or shutter speed. The instructor will check the learner's settings for accuracy.

TASK

M7 Identifying lenses and focusing procedures

PERFORMANCE OBJECTIVE

Identify lenses, focus the camera and calculate depth of field.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Purpose of the lens
b. Rationale for lens sizes
c. Focal length
    1. Of the normal lens
    2. Wide angle lenses
    3. Telephoto lenses
d. Procedure for focusing a lens
    1. Permanent lens
    2. Split image
    3. Ground glass or micro-prism
e. Depth of field
    1. Relationship to aperture and distance
    2. Relationship to focal length of lens
    3. The depth-of-field scale
    4. Previewing depth-of-field on an SLR
f. View finder parralax problems (correcting parallax)

Provide Practical Application On:

a. Focusing
b. Calculating depth-of-field

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Kodak, How to Make Good Pictures
c. Kodak, Filters and Lens Attachments for Black and White and Color Pictures

A/Vs:

Kodak, "Advanced Camera Handling"

Equipment:

Adjustable camera

CLASSROOM HOURS 8

EVALUATION (M7)

Given an adjustable camera and an assignment, the student will accurately focus the camera and provide for adequate depth-of-field. The completed task must meet the instructor's specifications.

TASK

M8 Identifying the shutter and speed shutter control

PERFORMANCE OBJECTIVE

Identify the shutter, choose appropriate shutter speeds and set the camera controls.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Freezing motion
b. Deliberate blurring to show action
c. Shutter speeds relative to action of subject(s)
d. Shutter speeds for close-up photography
e. Using a tripod
f. Focal-plane shutters
g. Between-the-lens shutters

Provide Practical Application On:

Choose appropriate shutter speeds for a given assignment.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Kodak, How to Make Good Pictures

A/Vs:

Kodak, "Basic Picture Taking Techniques"

Equipment:

Adjustable camera

CLASSROOM HOURS 8

EVALUATION (M8)

Given an adjustable camera and an assignment, the student will choose an appropriate shutter speed. The selection must meet the instructor's requirements.

TASK

M9 Maintaining cameras and equipment

PERFORMANCE OBJECTIVE

Maintain cameras and equipment in terms of cleanliness and tightness.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Cleanliness
b. Procedure for cleaning a lens
c. Using compresed air
d. Cases
e. UV, haze or sky-light filters
f. When to send to repair shop
g. Tightening screws
h. Effects of heat and cold
i. Battery care (when to replace)

Provide Demonstration On:

Cleaning a lens

Provide Practical Application On:

Clean the lens, tighten screws if necessary

INSTRUCTIONAL MATERIALS

Textbooks:

a. Equipment operation and service manuals
b. Kodak, How to Make Good Pictures
c. Kodak, Filters for Scientific and Technical Uses

Equipment:

a. Camera
b. Lens tissue
c. Lens brush
d. Lens cleaning fluid
e. Dust-off

CLASSROOM HOURS 12

EVALUATION (M9)

Given a camera, the student will clean the lens using appropriate procedures. The instructor will check the lens for accuracy.

TASK

M10 Loading film (35 mm)

PERFORMANCE OBJECTIVE

Load the film into a 35 mm camera and be able to advance the film in preparation for making an exposure.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Why the camera will register frames when film is not loaded properly
b. Attaching leader to take up spool
c. Checking the rewind knob
d. Loading 120/220 (optional)
e. Loading precautions
f. How to rewind 35 mm film

Provide Demonstration On:

Loading the camera

Provide Practical Application On:

Load the camera and advance the film.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Equipment operation and service manuals

Equipment:

a. Camera (35 mm)
b. Film

CLASSROOM HOURS 4

EVALUATION (M10)

Given a 35 mm camera and a roll of 35 mm film, the student will load the camera making sure that the film is firmly on the take up spool and advancing properly. The instructor will check the student's procedure.

TASK

M11 Choosing camera accessories

PERFORMANCE OBJECTIVE

Choose camera accessories necessary to complete an assignment.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Tripod
b. Cable release
c. Lens shade
d. Filters
  1. UV or haze
  2. Green
  3. Red
  4. Yellow
  5. Polarizing
c. Filter factors
d. Exposure meter
e. Wide-angle and telephoto
f. Zoom lenses
g. Lens extenders
h. Close up attachments
i. Self-timers
j. Motor drives
k. Flash
l. Gadget bags

Provide Demonstration On:

Various photographic accessories and their uses

Provide Practical Application On:

Choosing the appropriate accessories for the job

INSTRUCTIONAL MATERIALS

Textbooks:

a. Kodak, How to Make Good Pictures
b. Equipment operation and service manuals
c. Kodak, Filters and Lens Attachments for Black and White and Color Pictures

A/Vs:

Kodak, "Color as Seen with Filters"

Equipment:

Examples of equipment

CLASSROOM HOURS

8

EVALUATION (M11)

Given an assignment, the student will select the appropriate equipment for the job. The selection must meet the instructor's specifications.

TASK

M12 Identifying characteristics of black and white film

PERFORMANCE OBJECTIVE

Identify the characteristics of black and white film in terms of speed, grain and contrast.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Speed (ASA)
b. Grain
c. Color sensitivity
    1. Panchromatic
    2. Orthochromatic
d. Contrast
e. Latitude
f. Color films
    1. Speed
    2. Grain
    3. Latitude
g. Color balance
h. Storing films
i. Loading bulk film

Provide Practical Application On:

a. State an example of and characteristics of:
    1. A slow speed film
    2. A medium speed film
    3. A high speed film
b. Use a bulk film loader to load up blank cassettes with 36 exposures of 35mm film.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Kodak, How to Make Good Pictures
b. Dennis and Jenkins
c. Kodak, Kodak Professional Black and White Films

A/Vs:

a. Kodak, "Film: How it Works"
b. Kodak, "The Film/Paper Story"

Equipment:

a. Practice film
b. Bulk film loader
c. Cassettes

CLASSROOM HOURS 4

EVALUATION (M12)

Given a selection of films, the student will identify the film as slow, medium or fast and describe its characteristics in terms of speed, grain and contrast.

TASK

M13 Determining exposure

PERFORMANCE OBJECTIVE

Determine exposure using manufacturer's recommendations or an exposure meter.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Following manufacturer's recommendations for exposure (using the ASA index for shutter speed)
b. Using a built-in exposure meter
    1. Averaging
    2. Center-weighted
    3. Spot
c. Reflected light/ incident light
d. Using a hand held exposure meter (material light adapter)
e. Using a gray card
f. Identifying the zone system
g. Exposure problems
    1. Processing
    2. Reciprocity

INSTRUCTIONAL MATERIALS

Textbooks:

a. Dennis and Jenkins
b. Kodak, How to Make Good Pictures

A/Vs:

a. Kodak, "Better Pictures By Existing Light"
b. PICA, "How to Use a Light Meter"

Equipment:

a. Camera with built-in exposure meter
b. Hand held exposure meters
c. Gray card
d. Manufacturer's specification sheet for film

CLASSROOM HOURS 4

EVALUATION (M13)

Given an assignment, the student will determine exposure, built-in light meter, incident and reflected hand-held light meter. The instructor will check the student's work for accuracy.

TASK

M14 Developing a roll of black and white film

PERFORMANCE OBJECTIVE

Develop a roll of black and white film and evaluate the negative.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Identifying the negative
    1. Light areas
    2. Shadow areas
b. Cleanliness in the darkroom
c. Termperature controls
d. Equipment and supplies needed
e. Loading the film on a reel and into the tank (opening the film roll on cassette)
f. Procedure
    1. Pour in developer
    2. Setting the time
    3. Agitation
    4. Check the developer temperature
    5. Prepare stop bath or rinse
    6. Pour out developer
    7. Pour in stop bath or rinse
    8. Agitate
    9. Pour out stop bath or rinse
    10. Pour fixer into tank
    11. Agitate
    12. Pour out fixer
    13. Rinse
    14. Soak in washing agent (optional)
    15. Wash film
    16. Add a wetting agent
    17. Hang the film to dry
    18. Remove surface particles
    19. Place dried film in filing envelopes

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INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Dennis and Jenkins
c. Kodak, Darkroom Data Guide
d. Kodak, "How to Process Black and White Film and Prints Using Kodak Chemicals"
e. Kodak, "An Introduction to Photographic Processing"

A/Vs:

a. PICA, "Developing a Roll of Film"
b. Arizona State University, "Developing Roll Film"
c. Kodak, "Processing Black and White Film"

Student Manuals:

PICA, Developing a Roll of Film

Equipment:

a. Exposed film
b. Developing reel and tank
c. Water supply

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CLASSROOM HOURS

8

EVALUATION (M14)

Given a roll of exposed black and white film, the student will use proper procedures to develop the film and evaluate the resulting negatives. The instructor will check the student's work for accuracy.

INSTRUCTIONAL ACTIVITIES

Provide Demonstration On:

a. Setting up the darkroom
b. Loading film onto a reel
c. Developing the film

INSTRUCTIONAL MATERIALS

Equipment:

d. Thermometer
e. Timer
f. Developer, fixer, stop bath, washing agent, wetting agent
g. Film dryer (optional)
h. Clips
i. Negative files

TASK

M15 Identifying print making process

PERFORMANCE OBJECTIVE

Identify processes for print making in color and black and white for both contact printing and enlarging.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. The print
b. Contact prints
    1. Small format
    2. Large format
c. Enlarging
d. Color prints

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Dennis and Jenkins
c. Kodak, Black and White Photographic Papers
d. Kodak, Darkroom Data Guide
e. Kodak, Basic Developing, Printing, Enlarging

A/Vs:

Kodak, "Beginning Black and White Printing"

CLASSROOM HOURS 4

EVALUATION (M15)

Given an overview of printmaking processes, the student will accurately describe the following processes:

1. Contact printing
2. Enlargements
3. Color prints

TASK

M16 Identifying the components of the enlarger

PERFORMANCE OBJECTIVE

Identify the components of the enlarger and describe the functions of each.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Types of enlargers
   1. Condenser
   2. Diffusion types
   3. Condenser types
b. Parts of the enlarger
   1. Lamp
   2. Lamp housing
   3. Condenser lenses
   4. Diffusion glass
   5. Negative carrier
   6. Bellows
   7. Lens
   8. Baseboard and column
   9. Focusing controls
c. Related equipment
   1. Timer
   2. Using the timer switches to control enlarger lamp and safelights

Provide Demonstration On:

The function of the parts of the enlarger

Provide Practical Application On:

Adjust the enlarger and use timer switches to turn enlarger and safelights on and off.

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Dennis and Jenkins

A/Vs:

Arizona State University, "Enlarging Part 1"; "Creative Photography"

Equipment:

a. Enlarger
b. Timer
c. Safelights

CLASSROOM HOURS 4

EVALUATION (M16)

Given an enlarger, the student will accurately identify and describe the functions of the parts of the enlarger.

TASK

M17 Making a print

PERFORMANCE OBJECTIVE

Make a print by contact method and enlarging.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Equipment needed for enlarging
   1. Enlarger
   2. Timer
   3. Focusing magnifier
   4. Filters for variable contrast paper
   5. Safelights
   6. Negative brush
   7. Canned air (dust-off)
   8. Papercutter or scissors
   9. Timer with second sweep hand
   10. Four developing trays
   11. Graduated beaker
   12. Thermometer
   13. Towels
   14. Plastic apron
   15. Developer, stop bath, fixer
   16. Cleaning agent
   17. Sponge or squeegee
   18. Print washer or tray with siphon
   19. Print dryer or drying rack

b. Types of papers used for enlarging
   1. Regular
   2. RC
   3. Weights of paper, surfaces
   4. Ferrotyped finish
   5. Matte spray
   6. Paper contrast

continued on back

INSTRUCTIONAL MATERIALS

Textbooks:

a. Broekhuizen
b. Dennis and Jenkins
c. Carlsen
d. PICA, "Advanced Contacting"

A/Vs:

a. Arizona State University, "Making a Contact Sheet"; "Enlarging: Part II"; "Print Finishing"
b. Kodak, "Advanced Black and White Printing"
c. PICA, "Contacting and Enlarging"

Student Manuals:

a. PICA, Contacting and Enlarging
b. PICA, Advanced Contacting

Equipment:

a. Enlarger
b. Contact painting frame
c. Darkroom equipment and supplies
d. Film dryer or drying rack (for RC type papers)

CLASSROOM HOURS

8

EVALUATION (M17)

Given a negative, the student will expose and process a print using:

1. Contact printer
2. Enlarger

The print should be of appropriate contrast, in focus and clear of any defects.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

c. Dust in the darkroom
d. Exposing a contact print (papers used)
e. Exposing a print (test strip)
f. Processing prints
g. Drying prints (printing controls)
h. Darkroom precautions
i. Evaluating prints

Provide Demonstration On:

a. Setting up the darkroom for printing
b. Processing a print

Provide Practical Application On:

a. Make a contact print
b. Make an enlargement

TASK

M18 Making photographs using natural and artificial light sources

PERFORMANCE OBJECTIVE

Make photographs using natural and artificial light sources to produce portraits, flatwork and macro photographs.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Quality, direction and intensity of light
b. Existing light
    1. Outdoors
    2. Indoors
    3. Bracketing
    4. Tripod
c. "Pushing" film
d. Existing light portraits
    1. Using reflectors
    2. Fill in with flash
e. Using studio lights
    1. Main or key light
    2. Fill light
    3. Accent or back light
    4. Background light
    5. Choosing a background
    6. Portraits
    7. Group portraits
    8. Photographing still life
    9. Lighting ratio
    10. Feathering
f. Using flash
    1. Guide number
    2. Exposure formulas
g. Copy work and close-ups
    1. Determining exposure
    2. Gray card
    3. Exposure increase factors
    4. Photographing small objects

continued on back

INSTRUCTIONAL MATERIALS

Textbooks:

a. Kodak, How to Make Good Pictures
b. Kodak, Professional Portrait Techniques

A/Vs:

a. Kodak, "Photographing People"
b. Kodak, "Photo Reports Make it Happen"

Equipment:

a. Reflectors
b. Studio lights
c. Copy stand and lights
d. Camera
e. Flash

CLASSROOM HOURS 8

EVALUATION (M18)

Given appropriate equipment and an assignment, the student will make a photograph using existing light or studio lights. The student will make a portrait, copy flatwork and make a macro shot of a small object. The instructor will check the student's work for accuracy.

INSTRUCTIONAL ACTIVITIES

Provide Practical Application On:

a. Setting up to do an existing light photograph
b. Place studio lights for a portrait
c. Copy flatwork
d. Make an extreme close-up of a photograph

TASK

M19 Using special photographic techniques

PERFORMANCE OBJECTIVE

Develop photographs with special effects following procedures for special photographic techniques.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Making a photogram
b. Making prints from slides
c. Solarizing prints (the sabbatier effect)
d. Solarizing negatives
e. Making high contrast prints using drop-out process
f. Bas-reliefs
g. Texturizing prints
h. Multiple exposures
i. Photo-sketches

Provide Demonstration On:

Making a photo-sketch

Provide Practical Application On:

Make a photo-sketch.

INSTRUCTIONAL MATERIALS

Textbooks:

Kodak, Creative Darkroom Techniques

Equipment:

a. Photograph
b. India ink and pens
c. Iodine (or a reducer)
d. Trays
e. Fixer
f. Wash

CLASSROOM HOURS 8

EVALUATION (M19)

Given appropriate materials and supplies, the student will make a special effects photograph using one of six special techniques as follows:

1. Photograms
2. Solarization
3. High contrast drop-outs
4. Bas-reliefs
5. Texturizing
6. Photo-sketching

The student will identify and describe all six processes according to the instructor's specifications.

TASK

M20 Mounting and matting prints

PERFORMANCE OBJECTIVE

Mount and mat a print using a dry-mounting technique.

INSTRUCTIONAL ACTIVITIES

Provide Information On:

a. Dry-mounting (setting temperature control on the press)
b. Acid-free mounting board
c. Dry mounting tissue
d. Using the tacking iron
e. Trimming to size
f. Cooling the print
g. Using a hand iron
h. Cutting a mat
i. Spotting the print
    1. Fine brush (00)
    2. Spotone dye
j. Etching or bleaching (using razor knife edge to remove spots)
k. Displaying photographs (lighting)

Provide Demonstration On:

a. Dry-mounting
b. Cutting a mat

Provide Practical Application On:

Dry-mount a photograph and cut a mat to display the photograph. Make suggestions for hanging and lighting.

INSTRUCTIONAL MATERIALS

Textbooks:

Kodak, *Making and Mounting Big Black and White Enlargements and Photomurals*

A/Vs:

Arizona State University, "Print Finishing"

Equipment:

a. Dry-mounting tissue
b. Dry-mounting press
c. Acid-free particle board
d. Mat board
e. Mat cutter

CLASSROOM HOURS

8

EVALUATION (M20)

Given appropriate supplies and equipment, the student will mount and mat a photograph for display. The finished product must meet the instructor's specifications.

SECTION VI

REFERENCES, RESOURCES

RESOURCES

Instructional Resource Matrix

The Instructional Resource Matrix lists the instructional resources required to carry out the learning activities in each unit in the program. The resources are divided into the categories of audio visuals, textbooks and student materials.

Audio visuals are identified by the following symbols: slide/tapes (ST), video-cassette tapes (VC), transparencies (TR), casette tapes (T), movie films (MF), film loop (FL) and filmstrips (FL).

Textbooks are identified by the author(s)/publisher and title.

Textbook List

This list identifies the textbooks referenced in the Unit Guide section and on the Instructional Resource Matrix.

Audio Visuals

The suppliers of the audio visuals referenced on the Unit Guides and the Instructional Resource Matrix are listed.

Additional Instructional Resources

This section lists instructional resources which may be used in addition to those primary resources listed on the Unit Guides. The resources are divided into three categories.

Textbooks: A list of textbooks in addition to those referenced on the Unit Guides is provided.

Audio Visuals: A list of suppliers of audio visuals in addition to those referenced on the Unit Guides is provided. Also identified are the types of audio visuals available.

Individualized Instruction: Suppliers of individualized instruction materials, in addition to those referenced on the Unit Guides, are identified.

RESOURCE ADDRESSES

Addresses of instructional materials referenced on the Unit Guides and in the Additional Instructional Resources section are given.

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
A1 Identifying shop organization and maintenance procedures	PICA: "Safety in Communication" (ST)		Georgia: Unit E + S-2
A2 Identifying the origins of the painting industry		Broekhuizen	Georgia: Unit HSLR-1
A3 Identifying the major areas in graphic communications	PICA: "Orientation to Graphic Communications Industries" (ST); "The American Printer" (ST)	Dennis and Jenkins	Georgia: Unit IEGD-5
A4 Identifying equipment used in graphic arts	Prentice-Hall Media: "The Small Print Shop" (FS)		Georgia: Unit E + S-1
A5 Identifying the six major printing processes		Dennis and Jenkins	Georgia: Unit SOG-1
A6 Identify the production cycle of a printed project		Broekhuizen	Georgia: Unit SOG-2
A7 Identifying legal restrictions on printing		Dennis and Jenkins	Georgia: Unit HSLR-3
A8 Identify careers in graphic communications	PICA: "Careers in Graphic Communication" (ST)	Broekhuizen	Georgia: Unit SOG-3
B1 Identifying knowledge, skills and abilities for people working in layout			Georgia: Unit LC-3
B2 Identifying examples of work performed in layout	PICA: "Basic Layout Preparation" (ST)	Broekhuizen	Georgia: Unit LC-2; PICA: Basic Layout Preparation

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
B3 Identifying principles and fundamentals of layout	PICA: "Design Principles" (ST)	Dennis and Jenkins	Georgia: Units A and I-2
B4 Identifying basic drawing tools and their applications in graphic arts		Broekhuizen	Georgia: Units A and I-1
B5 Applying layout fundamentals	PICA: "Basic Layout Preparation" (ST); "Measurement in the Graphic Arts Industry" (ST); "Progressive Steps of a Layout" (ST)	Broekhuizen	Georgia: Unit JPL-3; PICA: Basic Layout Preparation
B6 Designing advertising layouts			Georgia: Unit JPL-5
B7 Computing enlargements and reductions for reproduction		Dennis and Jenkins	Georgia: Unit PA-2
B8 Identifying careers in layout		Broekhuizen	Georgia: Unit LC-1
C1 Identifying, cleaning and servicing the tools and equipment used for camera-ready art		Dennis and Jenkins	Georgia: Unit PA-1
C2 Preparing a general camera-ready copy	PICA: "Preparing Paste-up" (ST); "Paste-up Using Overlay" (ST); "Hand Composition" (ST); "Basic Paste-up for a 4-Page Signature" (ST)	Dennis and Jenkins	Georgia: Unit PA-3; PICA: Preparing Paste-up; Paste-up Using Overlay; Hand Composition; Basic Paste-up for a 4-Page Signature
C3 Pasting up camera-ready copy		Cogoli	Georgia: Unit IMA-3

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
C4 Preparing line copy for reproduction			Georgia: Unit PA-4
C5 Preparing a halftone copy for reproduction		Cogoli	Georgia: Unit PA-5
C6 Preparing line and halftone copy for reproduction		Cogoli	Georgia: Unit PA-7
C7 Identifying preparation procedures for a multi-copy	PICA: "How to Make a Duotone" (ST); "Color Separation Made Simple" (ST)	Dennis and Jenkins	Georgia: Unit PA-8; PICA: How to Make Duotones; Fake Duotones; Color Separation Made Simple
D1 Understanding and using the printer's point system		Broekhuizen	Georgia: Unit T-1; PICA: Measurements in the Graphic Arts Industry
D2 Identifying methods of type composition for reproduction		Cogoli	Georgia: Unit T-2; PICA: Measurements in the Graphic Arts Industry; Modern Phototypesetting Methods
D3 Applying principles of copy fitting	PICA: "Measurement in the Graphic Arts Industry" (ST)	Broekhuizen	Georgia: Unit JPL-4; PICA: Copy Fitting I; Copy Fitting II
D4 Identifying and classifying type composition and equipment		Broekhuizen	Georgia: Unit T-3
D5 Identifying image generation procedures	PICA: "Orientation to Composition" (ST)	Broekhuizen	Georgia: Unit IMA-1
D6 Identifying cold type composition		Broekhuizen	Georgia: Unit T-4
D7 Identifying phototypesetting methods	PICA: "Modern Phototypesetting Methods" (ST)	Broekhuizen	Georgia: Unit T-5

CURRICULUM AREA: Graphic Arts

TASK LISTING		INSTRUCTIONAL MATERIAL REFERENCES		
		Audio-Visuals	Textbooks	Student Materials
D8	Operating a photocomposer	Prentice-Hall Media: "Comp/Set Operator Training Program" (T); "Introduction to Phototypesetting" (T)	Equipment Operating Instructions	Prentice-Hall Media: VD 957 Learners Guide Work Book; VD 959 Learners Guide Work Book
D9	Operating the varityper		Cogoli; Equipment Operating Instructions	
D10	Performing proof-reading operations		Dennis and Jenkins	Georgia: Unit JPL-6
E1	Designing with type	PICA: "Types Styles and Their Uses" (ST); Prentice-Hall Media: "Introduction to Typography" (T)	Dennis and Jenkins	Georgia: Unit AP-2
E2	Identifying basic lettering procedures		Broekhuizen	Georgia: Units A and I-3
E3	Rendering letter forms		Broekhuizen	Georgia: Units A and I-4
E4	Performing image creation by technical illustration		Broekhuizen	Georgia: Units A and I-5
E5	Designing and printing a resume'			Georgia: Unit AP-1
F1	Identifying characteristics of film		Dennis and Jenkins; Kodak: Line Photography	Georgia: Unit LP-9

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
F2 Using sensitivity scales to develop line negatives		Dennis and Jenkins; Kodak: Line Photography; Basic Photography for the Graphic Arts	Georgia: Unit LP-10
F3 Predicting the effects of variables in processing			Georgia: Unit LP-16
F4 Demonstrating an understanding of the basic principles of line photography		Kodak: Line Photography; Basic Photography for Graphic Arts Q-1; Dennis and Jenkins	Georgia: Unit LP-1
F5 Setting up the darkroom		Kodak: Basic Photography for Graphic Arts, Q-1; Line Photography; Dennis and Jenkins	
F6 Identifying the principles of the process camera		Dennis and Jenkins	Georgia: Unit LP-2-1
F7 Identifying the basic parts of the process camera		Dennis and Jenkins	Georgia: Unit LP-4
F8 Identifying basic process camera adjustments and movements		Dennis and Jenkins	Georgia: Unit LP-5

CURRICULUM AREA: Graphic Arts

TASK LISTING		INSTRUCTIONAL MATERIAL REFERENCES		
		Audio-Visuals	Textbooks	Student Materials
F9	Using F-numbers to adjust exposure		Dennis and Jenkins; Kodak: *Line Photography*	Georgia: Unit LP-11
F10	Determining camera setting for enlargement		Kodak: *Line Photography*; *A Glossary of Terms*	Georgia: Unit LP-13
F11	Demonstrating an understanding of the principle of image inversion and the process of focusing a process camera		Kodak: *Line Photography*	Georgia: Unit LP-3
F12	Evaluating negatives		Kodak: *Line Photography*	Georgia: Unit LP-8
F13	Producing a line negative	PICA: "Making Line Negatives" (ST)	Dennis and Jenkins	Georgia: Unit LP-7; PICA: *Making Line Negatives*
F14	Producing enlarged and reduced negatives		Kodak: *Basic Photography for Graphic Arts*	Georgia: Unit LP-14
F15	Making a two-step reduction	PICA: "Making Line Negatives by the Contact Method" (ST)	Dennis and Jenkins; Kodak: *Basic Photography for the Graphic Arts*; *Line Photography*	Georgia: Unit LP-15; PICA: *Making Line Negatives by the Contact Method*

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
F16 Making a line negative from a continuous tone photograph		Kodak: Halftone Methods for the Graphic Arts; Student Workbook: Halftone Photography	Georgia: Unit HTP-1
F17 Demonstrating an understanding of fundamental principles of halftone photography	PICA: "How to Make a Halftone Negative" (ST); "Halftone Exposure" (ST)	Kodak: Halftone Methods for the Graphic Arts; Student Workbook: Halftone Photography	Georgia: Unit HTP-2; PICA: How to Make Halftone Negatives; Halftone Exposure
F18 Determining density range of a halftone negative		Dennis and Jenkins; Kodak: Student Workbook: Halftone Photography	Georgia: Unit HTP-5
F19 Using the graphic arts exposure computer to determine main and flash exposure	PICA: "Using the Kodak Halftone Negative Computer" (ST)	Dennis and Jenkins; Kodak: Student Workbook: Halftone Photography	Georgia: Unit HTP-6; PICA: Using the Halftone Negative Computer
F20 Producing a halftone negative and contact print	PICA: "Basic Contact Printing" (ST); "Making Halftones by the Contact Method" (ST)	Kodak: Halftone Methods for the Graphic Arts; Student Workbook: Halftone Photography	Georgia: Unit HTP-3; PICA: Making Halftones by the Contact Method

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
F21 Evaluating halftone negatives		Kodak: Student Workbook: Halftone Photography; Halftone Methods for the Graphic Arts	Georgia: Unit HTP-4
F22 Making a negative from a line mechanical with halftone paper points		Kodak: Student Workbook: Halftone Photography	Georgia: Unit HTP-7
F23 Using advanced halftone photography techniques	PICA: "Posterization" (ST); "Posterization: The Contact Method" (ST); "ROP Color Separation" (ST); "Stripping Multi-Color Line Negatives" (ST); "Five Ways to Make an Outline Halftone" (ST)	Cogoli	PICA: Posterization; Posterizations: The Contact Method; Stripping Multi-Color Line Negatives; Five Ways to Make an Outline Halftone; ROP Color Separations
F24 Making halftones with autoscreen film		Kodak: Basic Photography for Graphic Arts	Georgia: Unit HTP-9
G1 Demonstrating an understanding of basic principles of stripping and platemaking	PICA: "Basic Stripping" (ST)	Broekhuizen	Georgia: Unit 1CP-1; PICA: Basic Stripping
G2 Laying out and stripping a flat		Dennis and Jenkins; Broekhuizen	Georgia: Unit 1CP-5

CURRICULUM AREA: Graphic Arts

TASK LISTING		INSTRUCTIONAL MATERIAL REFERENCES		
		Audio-Visuals	Textbooks	Student Materials
G3	Stripping a flat using screen tints	PICA: "Stripping Duotones" (ST)	Broekhuizen	Georgia: Unit 1CP-8; PICA: Stripping Duotones
G4	Stripping a flat with multiple registration		Dennis and Jenkins; Cogoli	Georgia: Unit 1CP-6
G5	Laying out and stripping flats with line and halftone combinations	PICA: "Stripping Line and Halftone Combinations" (ST)	Cogoli; Dennis and Jenkins	Georgia: Unit 1CP-7; PICA: Stripping Line and Halftone Combinations
G6	Using step and repeat technique to strip a multi-image flat	PICA: "Step and Repeat" (ST)	Cogoli; Broekhuizen	Georgia: Unit 1CP-9; PICA: Step and Repeat
H1	Identifying parts and controls of a flip-top platemaker		Broekhuizen; Dennis and Jenkins; Equipment Operating Instructions	Georgia: Unit 1CP-4A
H2	Identifying types of lithographic plates		Broekhuizen	Georgia: Unit 1CP-3
H3	Determining exposure and processing presensitized plates	PICA: "Offset Printing Plates and Their Preparation" (ST)		Georgia: Unit 1CP-4; PICA: Making a Presensitized Offset Plate
H4	Making plates		Cogoli	
H5	Preparing direct image masters		Cogoli	Georgia: Unit IMA-4
H6	Using screen tints		Cogoli	Georgia: Unit PA-6
I1	Identifying major printing processes	PICA: "Direct Image Plates" (ST)	Dennis and Jenkins	Georgia: Unit 1CP-2

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
I2 Identifying basic methods of printing with plates		Cogoli	Georgia: Unit ORD-1-3
I3 Identifying basic theory of offset printing		Cogoli	Georgia: Unit ORD-1-4
I4 Identifying basic principles of offset reproduction		Broekhuizen	Georgia: Unit ORD-1-1
I5 Identifying operating systems		Cogoli	Georgia: Unit ORD-1-5
I6 Identifying the systems of the printing unit		Cogoli	Georgia: Unit ORD-1-8
I7 Identifying inking systems		Broekhuizen; Cogoli	Georgia: Unit ORD-1-7
I8 Identifying the components of the dampening system		Broekhuizen	Georgia: Unit ORD-1-6
I9 Identifying the parts of the paper feeding, register and delivery system		Broekhuizen	Georgia: Unit ORD-1-9
I10 Operating the press	PICA: "Setting Up the Offset Press for Printing" (ST)	Broekhuizen; Cogoli	Georgia: Unit ORD-6-1
I11 Performing daily clean-up and maintenance		Equipment Service Manuals	Georgia: Unit ORD-3-1
I12 Performing major clean-up of an offset duplicator		Broekhuizen; Cogoli	Georgia: Unit ORD-3-2
I13 Troubleshooting moisture problems		Broekhuizen; Dennis and Jenkins	Georgia: Unit ORD-5-1

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
I14 Identifying problems related to registration adjustments		Cogoli; Dennis and Jenkins	Georgia: Unit ORD-5-2
I15 Identifying and selecting offset printing inks		Cogoli; Dennis and Jenkins	
I16 Printing with ink other than black		Broekhuizen; Cogoli	Georgia: Unit ORD-6-3
I17 Using a metal plate		Cogoli	Georgia: Unit ORD-6-2
I18 Using an electrostatic plate	Prentice-Hall Media: "Plate Making" P/O VD 962 (FS)	Dennis and Jenkins; Broekhuizen	Missouri, IE-33-S Graphic Arts
I19 Testing roller pressure		Cogoli; Dennis and Jenkins	Georgia: Unit ORD-5-3
I20 Diagnosing problems related to blanket and blanket cylinder		Cogoli	Georgia: Unit ORD-5-4
I21 Adjusting feed and delivery systems for 11" x 17" paper			Georgia: Unit ORD-2-2
I22 Adjusting the press		Cogoli	
I23 Adjusting feeding delivery systems for 4" x 9-1/2" legal envelopes			Georgia: Unit ORD-2-3
I24 Printing both sides of a copy			Georgia: Unit ORD-6-6
I25 Printing copies on 11" x 17" paper			Georgia: Unit ORD-6-4
I26 Printing signatures			Georgia: Unit ORD-6-7

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
J1 Identifying manufacturing process in papermaking and finishing		Broekhuizen; Dennis and Jenkins	Georgia: Unit PF-1
J2 Determining special problems with paper felt side and wide side			Georgia: Unit SPP-1
J3 Identifying paper grades and characteristics		Dennis and Jenkins	Georgia: Unit PF-2
J4 Identifying paper grain direction		Broekhuizen	Georgia: Unit SPP-2
J5 Identifying special problems with paper shrinking and stretching			Georgia: Unit SPP-3
J6 Identifying types of paper	PICA: "Paper Calculations" (ST)	Cogoli; Dennis and Jenkins	Georgia: Unit ORD-2-5; PICA: Paper Calculations
J7 Diagnosing and correcting special problems with paper runability and print quality			Georgia: Unit SPP-4
J8 Ordering paper		Dennis and Jenkins	Georgia: Unit PF-3
J9 Identifying bindery methods and operations	PICA: "Finishing and Binding" (ST)	Dennis and Jenkins	Georgia: Unit BMO-1
J10 Identifying bindery and finishing procedures			Georgia: Unit IBF-2
J11 Identifying the systems approach to building occupation skills in bindery			Georgia: Unit IBF-3

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
J12 Identifying careers in bindery and finishing procedures		Broekhuizen	Georgia: Unit 1BF-1
J13 Identifying the procedures for papercutting	PICA: "Jogging and Cutting Paper" (ST)	Broekhuizen; Dennis and Jenkins	Georgia: Unit FP-4; PICA: Jogging and Cutting Paper
J14 Cutting paper into standard press size			Georgia: Unit PC-1
J15 Cutting paper into six practical sizes			Georgia: Unit PC-2
J16 Cutting paper into eight practical sizes			Georgia: Unit PC-4
J17 Cutting paper into five practical sizes			Georgia: Unit PC-3
J18 Gathering, inserting and collating paper		Broekhuizen	Georgia: Unit BMO-4
J19 Operating the folder		Broekhuizen	Georgia: Unit FP-3
J20 Identifying types of folders		Broekhuizen	Georgia: Unit FP-2
J21 Demonstrate the types of folds used for printed documents		Broekhuizen	Georgia: Unit FP-1
J22 Scoring and slitting paper		Broekhuizen	Georgia: Unit BMO-2
J23 Drilling paper		Broekhuizen	Georgia: Unit BMO-7
J24 Padding and gluing paper		Dennis and Jenkins	Georgia: Unit BMO-3

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
J25 Stitching and stapling final products		Broekhuizen	Georgia: Unit BMO-5
J26 Binding books through mechanical means (wire spiral and plastic comb)		Broekhuizen	Georgia: Unit BMO-6
K1 Performing message analysis		Broekhuizen	Georgia: Unit JPL-1
K2 Identifying specifications for a printing job		Cogoli	A. B. Dick, Decision Making
L1 Selecting a job and making a film positive	PICA: "Screen Printing" (ST)	Carlsen; Dennis and Jenkins; Eisenberg and Kafer	Georgia: Unit SP-2-1; PICA: Screen Printing
L2 Identify printing done by silk screen process		Broekhuizen; Carlsen; Dennis and Jenkins	Georgia: Unit SP-1-1
L3 Identifying and using equipment and inks		Broekhuizen; Dennis and Jenkins	Georgia: Unit SP-1-6
L4 Identifying and using types of drying equipment and drying racks used in the hand-screen-printing process		Broekhuizen; Dennis and Jenkins; Eisenberg and Kafha	Georgia: Unit SP-2-4
L5 Building a silk screen frame			Georgia: Unit SP-1-2
L6 Stretching and cleaning silk		Broekhuizen; Dennis and Jenkins	Georgia: Unit SP-1-3

CURRICULUM AREA: Graphic Arts

TASK LISTING		INSTRUCTIONAL MATERIAL REFERENCES		
		Audio-Visuals	Textbooks	Student Materials
L7	Prepare and adhere a hand cut screen stencil	PICA: "Screen Printing" (ST)	Broekhuizen; Carlsen	Georgia: Unit SP-1-4; PICA: Screen Printing
L8	Making a photographic screen		Dennis and Jenkins	Georgia: Unit SP-2-2
L9	Running a one-color photographic screen		Dennis and Jenkins	Georgia: Unit SP-2-3
L10	Running a one-color poster		Broekhuizen; Carlsen; Dennis and Jenkins	Georgia: Unit SP-1-5
L11	Screening on three-dimensional objects		Broekhuizen; Eisenberg and Kafka	Georgia: Unit SP-3-1
M1	Identifying properties of light	PICA: "Introduction to Photography" (ST); Kodak: "Color As Seen With Light" (ST); Kodak: "Worth How Many Words" (MF); Kodak: "Ideas Won't Keep" (ST); Kodak: "Images For Imagination" (MF)	Kodak: How to Make Good Pictures; Dennis and Jenkins	
M2	Identifying characteristics of perspective	AECT: "How Does a Picture Mean?" (ST)	Kodak: How to Make Good Pictures	
M3	Identifying the rules of composition	Kodak: "The Beginning of Composition" (ST)	Kodak: How to Make Good Pictures	

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
M4 Identifying the basic parts of a camera	Kodak: "Photography - How It Works" (MF)	Dennis and Jenkins; Kodak: How to Make Good Pictures	
M5 Identifying basic types of cameras		Dennis and Jenkins; Kodak: How to Make Good Pictures	
M6 Using exposure controls		Dennis and Jenkins; Kodak: How to Make Good Pictures	
M7 Identifying lens and focusing procedures	Kodak: "Advanced Camera Handling" (ST)	Dennis and Jenkins; Kodak: How to Make Good Pictures; Kodak: Filters and Lens Attachments for Black/White and Color Pictures	
M8 Identifying the shutter and setting shutter speeds	Kodak: "Basic Picture Taking Techniques" (ST)	Dennis and Jenkins; Kodak: How to Make Good Pictures	

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
M9 Maintaining cameras and equipment		Operation and service instructions for on-hand equipment; Kodak: How to Make Good Pictures; Kodak: Filters for Scientific and Technical Use	
M10 Loading film		Dennis and Jenkins; Operating and service instructions for specific cameras used with this unit	
M11 Choosing camera accessories	Kodak: "Color as Seen with Filters" (ST)	Kodak: How to Make Good Pictures; Operating instructions for specific cameras used with this unit; Kodak: Filters and Lens Attachments for Black/White and Color Pictures	

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
M12 Identifying characteristics of black and white film	Kodak: "Film - How it Works" (ST); Kodak: "The Film/Paper Story" (MF)	Kodak: How to Make Good Pictures; Dennis and Jenkins; Kodak: Professional Black and White Films	
M13 Determining exposure	Kodak: "Better Pictures by Existing Light" (ST); PICA: "How to Use a Light Meter" (ST)	Dennis and Jenkins; Kodak: How to Make Good Pictures	
M14 Developing a roll of black and white film	PICA: "Developing a Roll of Film" (ST); Arizona State University: "Developing Roll Film" (FS); Kodak: "Processing Black and White Film" (ST); Kodak: "How to Process Black/White Film and Prints Using Kodak Chemicals" (T); Kodak: "An Introduction to Photographic Processing" (ST)	Broekhuizen; Dennis and Jenkins; Kodak: Darkroom Data Guide	PICA: Developing a Roll of Film

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
M15 Identifying print making process	Kodak: "Beginning Black and White Printing" (ST)	Broekhuizen; Dennis and Jenkins; Kodak: Black/White Photographic Papers; Kodak: Darkroom Data Guide; Kodak: Basic Developing, Printing, Enlarging	
M16 Identifying the components of the enlarger	Arizona State University: "Enlarging, Part I" (FS)	Broekhuizen; Dennis and Jenkins	
M17 Making a print	Arizona State University: "Making a Contact Sheet" (FS); "Enlarging Part II"(FS) "Print Finishing" (FS); Kodak: "Advanced Black and White Printing" (ST); PICA: "Contacting and Enlarging"(ST); PICA: "Advanced Contacting" (ST)		
M18 Making photographs using natural and artificial light sources	Kodak: "Photographing People" (ST); Kodak: "Photo Reports Make It Happen" (ST)	Kodak: How to Make Good Pictures; Kodak: Professional Portrait Techniques	

CURRICULUM AREA: Graphic Arts

TASK LISTING	INSTRUCTIONAL MATERIAL REFERENCES		
	Audio-Visuals	Textbooks	Student Materials
M19 Using special photographic techniques		Kodak: Creative Darkroom Techniques	
M20 Mounting and matting prints	Arizona State University: "Print Finishing" (FS)	Kodak: Making and Mounting Big Black and White Enlargements and Photomurals	

TEXTBOOK LIST

Broekhuizen, R.J., Graphic Communications (2nd ed.). Bloomington, IL: McKnight Publishing Company, 1979.

Carlsen, D.E., Graphic Arts (5th ed.). Peoria, IL: Chas. A. Bennett Co., Inc., 1977.

Cogoli, J.E., Photo-Offset Fundamentals. Bloomington, IL: McKnight Publishing Co., 1980.

Dennis, E.A. and Jenkins, J.D., Comprehensive Graphic Arts. Indianapolis, IN: Bobbs-Merrill Educational Publishing, 1974.

Eisenberg, J. and Kafka, F.J., Silk Screen Printing. Bloomington, IL: McKnight Publishing Co., 1957.

Kodak, Black and White Photographic Papers. Rochester, NY: Eastman Kodak Co., 1971.

Kodak, Basic Photography for the Graphic Arts, Q-1. Rochester, NY: Eastman Kodak Co., 1975.

Kodak, A Glossary of Photographic Terms. Rochester, NY: Eastman Kodak Co., 1975.

Kodak, Creative Darkroom Techniques. Rochester, NY: Eastman Kodak Co., 1975.

Kodak, Darkroom Dataguide. Rochester, NY: Eastman Kodak Co., 1977.

Kodak, Filters and Lens Attachments for Black and White and Color Pictures. Rochester, NY: Eastman Kodak Co., 1975.

Kodak, Filters for Scientific and Technical Use. Rochester, NY: Eastman Kodak Co., 1976.

Kodak, Halftone Methods for the Graphic Arts. Rochester, NY: Eastman Kodak Co., 1976.

Kodak, Halftone Photography, Student Workbook. Rochester, NY: Eastman Kodak Co., 1975.

Kodak, How to Make Good Pictures. Rochester, NY: Eastman Kodak Co., 1975.

Kodak, Line Photography, Student Workbook. Rochester, NY: Eastman Kodak Co., 1974.

Kodak, Making and Mounting Big Black and White Enlargements and Photomurals. Rochester, NY: Eastman Kodak Co., 1974.

Kodak, Professional Black and White Films. Rochester, NY: Eastman Kodak Co., 1973.

Kodak, Professional Portrait Techniques. Rochester, NY: Eastman Kodak Co., 1973.

ADDITIONAL INSTRUCTIONAL RESOURCES

Textbooks

A. B. Dick, *Communicating with Graphics*. Chicago, IL: A. B. Dick Co., 1970.

A. B. Dick, *Graphic Communications Series: Communicating with Graphics; Artwork; Image Assembly: Photo Conversion; Image Carrier Preparation; Image Transfer; Finishing Procedures; Decision Making*. Chicago, IL: A. B. Dick Co., Inc., 1970.

A. B. Dick, *Learning System for Offset Instruction*. Chicago, IL: A. B. Dick Co., 1970.

Broekhuizen, R. J., *Study Guide Graphic Communications*. Bloomington, IL: McKnight Publishing Co., 1979.

Cameron, Cleve A., *Going Metric with the U.S. Printing Industry*. Rochester, NY: Graphic Arts Research Center, Rochester Institute of Technology, 1972.

Campbell, E. A., *Safety Manual for the Graphic Arts Industry*. Chicago, IL: National Safety Council, 1972.

Carter, R. H., *A Curriculum Guide for Graphic Arts Technology*. Augusta, ME: Dept. of Education, 1971.

Cogoli, John E., *Study Guide: Photo-Offset Fundamentals*. Bloomington, IL: McKnight Publishing Company, 1980.

DeLuca, J. P., *Practical Problems in Mathematics for Printers*. Albany, NY: Delmar Publishers, 1976.

Dennis, E. A. and Herr, J. F., *Comprehensive Graphic Arts Student's Manual*. Indianapolis, IN: Bobbs-Merrill Co., Inc., 1976.

Dennis, E. A. and Jenkins, J. D., *Comprehensive Graphic Arts Teacher's Manual*. Indianapolis, IN: Bobbs-Merrill Co., Inc., 1975.

Dennis, E. A., *Lithographic Technology*. Indianapolis, IN: Bobbs-Merrill, 1980.

Department of Labor, *Occupational Outlook Handbook*. Washington, DC: Government Printing Office, 1980.

Felten, Charles J., *Layout Four: Printing, Design, and Typography* (4th rev. ed.). St. Petersburg, FL: C. J. Felten, 1970.

Hertz, A., *Graphic Communications, Preparatory Area I: Typography and Modern Typesetting*. New Brunswick, NJ: Rutgers - The State University, 1978.

Kodak, Lithographic Platemaking Student Workbook. Rochester, NY: Eastman Kodak Co., 1971.

Kodak, Outline for Teaching a Course in Advanced Photography, AT 108. Rochester, NY: Eastman Kodak Co., (undated).

Kodak, Outline for Teaching a Course in Basic Darkroom Techniques, AT-107. Rochester, NY: Eastman Kodak Co., (undated).

Kodak, Outline for Teaching a Course in Basic Photography, AT-105. Rochester, NY: Eastman Kodak Co., (undated).

Kodak, Photographic Materials for the Graphic Arts, Q-Z. Rochester, NY: Eastman Kodak Co., (undated).

Kosloff, Albert, Screen Printing Techniques. Cincinnati, OH: Signs of the Times Publishing Co., 1972.

Miller, W. R., et al., Graphic Arts. Bloomington, IL: McKnight Publishing Co., 1978.

Office of Education, Exploring Visual Arts and Crafts Careers, A Student Guidebook. Washington, DC: Government Printing Office, 1976.

Printer, Offset: Additional Tests and Work Sheets. Center for Occupational Curriculum Development, The University of Texas at Austin, Austin, TX, 1976.

Printer, Offset: Coordinator's Guide. Center for Occupational Curriculum Development, The University of Texas at Austin, Austin, TX, 1976.

Printer, Offset: Student's Guide. Center for Occupational Curriculum Development, The University of Texas at Austin, Austin, TX, 1976.

Polk, Ralph W. and Polk, Edwin W., Elementary Platen Presswork (4th ed.). Peoria, IL: Chas. A. Bennett Co., Inc., 1971.

Polk, Ralph W. and Polk, Edwin W., The Practice of Printing (7th ed.). Peoria, IL: Chas. A. Bennett Co., Inc., 1971.

Public Health Service, Employee Health and Safety in the Lithographic Printing Industry. Washington, DC: Government Printing Office, 1977.

Silver, G. A., Graphic Layout and Design. Albany, NY: Delmar Publishers, 1980.

Silver, G. A., Instructor's Guide: Graphic Layout and Design. Albany, NY: Delmar Publishers, 1980.

Silver, G. A., Modern Graphic Arts Paste-Up (2nd ed.). Chicago, IL: American Technical Society, 1973.

Silver, G. A., Printing Estimating. Chicago, IL: American Technical Society, 1970.

State of Alabama, Offset Printing. Montgomery, AL: Division of Instructional Services State Dept. of Education, 1977.

Stevenson, George A., Graphic Arts Encyclopedia. New York, NY: McGraw-Hill Book Co., 1968.

USMC, Lithography: Task Analysis Questionnaire. Quantico, VA: USMC Office of Manpower Utilization, 1975.

Audio Visuals

Arizona State University	Filmstrip/Cassette
Eastman Kodak Company	Slide/Cassette 16 mm Movie Film, Cassette
Prentice-Hall Media	Filmstrip/Cassette Slide/Cassette
The PICA Foundation	Slide/Cassette

Curriculum Materials

Communication Arts: Course Outline. Staples, MN: Staples Area Vocational-Technical Institute.

A Cooperative Curriculum Effort in the Area of Visual Communication: the CBIE Project (The Conceptual Base for Industrial Education). Topeka, KS , 1973.

A Catalog of Objectives for Competency-Based Instructions in Prevocational Graphic Communications. Tallahasse, FL: Florida State University, Dissemination and Diffusion Section, Div. of Vocational Education, 1976.

Carter, Richard H., A Curriculum Guide for Graphic Arts Technology. Augusta, ME: State of Maine, Dept. of Education, Bureau of Vocational Education, 1971.

Freund, Norman and Hansen, Philip, Graphic Arts: Grade 12. Milwaukee, WI: Dept. of Elementary and Secondary Education, Div. of Curriculum and Instruction, Milwaukee Public Schools, 1972.

Graphic Arts I (and) II (Production Area) Course Outline. Staples, MN: Staples Area Vocational-Technical Institute.

Graphic Arts: Trade Preparatory Training Guide. Lincoln, NE: Nebraska Dept. of Education, Div. of Vocational Education, 1975.

Graphic Communications Curriculum Guide. Bismark, ND: North Dakota State Board of Vocational Education, 1976.

Graphic Communications: Graphic Arts Guide. Lincoln, NE: Nebraska Dept. of Education, Div. of Vocational Education, 1975.

Hawkinson, Bruce, Graphic Arts: A Curriculum Manual. Stillwater, OK: New Mexico State Board of Education, 1975.

Minnesota Graphic Communication Curriculum: Post-Secondary State Level. St. Paul, MN: Minnesota Dept. of Education.

Steele, Gregg and Wells, Richard D. A Guide for Teaching Graphic Arts in Indiana. Terre Haute, IN: Vocational Instructional Materials Laboratory, Dept. of Vocational-Technical Education, Indiana State University, 1970.

Visual Communications: Industrial Arts Curriculum Guide Grades 9-12. Baton Rouge, LA: Louisiana State Dept. of Education, 1974.

Zachry, Bill, et al., A Suggested Course Outline for Graphic Arts. Sante Fe, NM: New Mexico Dept. of Education, Vocational-Technical Div., Trade and Industrial Education.

RESOURCE ADDRESSES

American Institute of Graphic Arts
1059 Third Avenue
New York, NY 10021

American Technical Society
5608 Stony Island Avenue
Chicago, IL 60637

American Type Founders
Whitinsville, MA 01588

A.B. Dick Company
5700 W. Toulty Avenue
Chicago, Illinois

APA Institute, Ltd.
1306 Washington Ave.
St. Louis, MO 63103

Arizona State University
Media Research and Development
Tempe, AZ 85281

Association For Educational Communications and Technology
1126 16th St. N.W.
Washington, DC 20036

Bennet Publishing Company
809 W. Detweiller Dr.
Dept. E81
Peoria, IL 61615

Bergwall Productions, Inc.
839 Stewart Ave.
Garden City, NY 11530

Bobbs-Merrill Educational Publishing
4300 West 62nd Street
Indianapolis, IN 46206

Career Aids, Inc.
8950 Lurline Ave, Dept. T7
Chatsworth, CA 91311

Caricaturists Society of America
218 West 47th Street
New York, NY 10036

Center For Occupational Curriculum Development
P.O. Box 7218
The University of Texas at Austin
Austin, TX 78712

DCA Educational Products
424 Valley Road
Warrington, PA 18976

Delmar Publishers
P.O. Box 5087
Albany, NY 12205

Dover Publications, Inc.
180 Varick Street
New York, NY 10021

Drawing Society
41 East 65th Street
New York, NY 10021

Eastman Kodak Company
Department 454
343 State Street
Rochester, NY 14650

Flexographic Technical Association, Inc.
1416 Avenue M
Brooklyn, NY 11230

Goodheart-Wilcox
123 W. Taft Dr.
South Holland, IL 60473

Graphic Arts Technical Foundation
4615 Forbes Avenue
Pittsburgh, PA 15213

Gravure Technical Association
60 East 42nd Street
New York, NY 10017

Gregg/McGraw-Hill
1221 Avenue of Americas
New York, NY 10020

Howard W. Sams
Bobbs-Merrill Educational Publishing
4300 West 62nd Street
P.O. Box 558
Indianapolis, IN 46206

Instructional Materials Laboratory
10 Industrial Education Building
University of Missouri-Columbia
Columbia, MO 65211

Instructional Materials Laboratory
Trade and Industrial Education
The Ohio State University
Columbus, Ohio 43210

International Association of Printing House Craftsmen, Inc.
7599 Kenwood Road
Cincinnati, OH 45236

International Graphic Arts Education Association, Inc.
One Lomb Memorial Drive
Rochester, NY 14623

Maine State
Dept. of Education
Bureau of Vocational Education
Augusta, ME 04330

McKnight Publishing Company
Box 2854
Bloomington, IL 61701

Mid-America Vocational Curriculum Consortium
1515 West Sixth Avenue
Stillwater, OK 74074

National Audio Visual Center
National Archives and Record Service General Services Administration
Order Section PS
Washington, DC 20409

National Cartoonists Society
152 Colonial Parkway
Manhasset, Long Island, NY 11030

National Safety Council
425 N. Michigan Avenue
Chicago, IL 60611

New Jersey Vocational-Technical Curriculum Laboratory
Rutgers-The State University,
Building 4103 - Kilmer Campus
New Brunswick, NJ 08903

NuArc Company, Inc.
555 Armour Circle N.E.
Atlanta, GA 30324

Pen and Brush Club
16 East 10th Street
New York, NY 10003

(The) PICA Foundation
P.O. Box 4487
Charlotte, NC 28204

Prentice-Hall Media
150 White Plains Road
Tarrytown, NY 10591

Printing Industries of America, Inc.
Graphic Communications Center
1730 North Lynn Street
Arlington, VA 22209

Printing Industries of the Gulf Coast
1324 West Clay
Houston, TX 77019

Professional Photographers of America
1090 Executive Way
Des Plaines, IL 60018

Publications Office
National Center for Research
in Vocational Education
The Ohio State University
1960 Kenny Road
Columbus, OH 43210

Rutgers-The State University
Vocational-Technical Lab
Bldg. 4103-Kilmer Campus
New Brunswick, NJ 08903

Screen Printing Association
International
150 South Washington Street
Falls Church, VA 22046

Singer, Career Systems
80 Commerce Drive
Rochester, NY 14623

Society of American Graphic
Artists
1083 Fifth Avenue
New York NY 10028

U.S. Government Printing Office
Superintendent of Documents
Washington, DC 20402

Vocational Education Materials
Center
Green Street
The University of Georgia
Athen, GA 30602

Watson-Guptill Publications
2160 Patterson Street
Cincinnati, OH 45214

Wisconsin Vocational Studies
Center
University of Wisconsin-Madison
964 Educational Science
Building
1025 W. Johnson St.
Madison, WI 53706

3M Company
3M Center
St. Paul, MN 55101

SECTION VII

STUDENT RECORDS

STUDENT RECORDS

This section contains four forms, the Individual Progress Report Chart, the Group Progress Chart, the Competency Checklist and the Certificate of Competency. The use of these charts is described below and on page 6.

INDIVIDUAL PROGRESS REPORT

One copy should be kept in each student's confidential file and updated as tasks are completed. Grades should be assigned upon task completion and then averaged for grade reporting. Difficulty, excessive amounts of time, etc. should be noted on this form and should be discussed with the student.

GROUP PROGRESS CHART

This chart reflects task completion only and can be displayed in the classroom or lab area. Due to confidentiality of records, a grade must not be recorded. The instructor should maintain a copy of this record and update it daily.

INDIVIDUAL PROGRESS REPORT

NAME ______________________________

PROGRAM/ CLUSTER ______________________________ AREA ______________________________

TASK/ UNIT NO.	UNIT TITLE	DATE STARTED	DATE COMP.	EST. TIME	GRADE

GROUP PROGRESS CHART

NAME	UNITS/TASKS																				

COMPETENCY CHECKLIST

The Competency Checklist is an easy device for the instructor to use to know when a student is eligible to receive a Certificate of Competency (shown on page 9). One Checklist is used per student for as long as the student stays in the program. The instructor may use the Checklist in the following manner:

1. Enter the student's name on the form.
2. As the student masters each task, check off the task under each job title on the Competency Checklist for which it appears.
3. Keep the Checklist in each student's personal file or keep all Competency Cehcklists together in a separate file.
4. When all the tasks underneath a job title have been checked off, the student is eligible to receive a Certificate of Competency for that job title.

CERTIFICATE OF COMPETENCY

The Certificate of Competency is issued by the instructor to certify that the student has mastered the tasks necessary for entry level employment for the job listed on the Certificate. The specific tasks that have been mastered are printed on the back of the Certificate, which can be used by the student to show a prospective employer exactly what the student is qualified to do. The Certificates should be printed ahead of time so that the instructor may simply fill in the front of the Certificate whenever a student is eligible to receive one, as indicated by the student's Competency Checklist. A sample completed Certificate of Competency appears on page 9 followed by a Certificate of Competency for each of the possible Graphic Arts program exit points (job titles).

The Certificate should be completed by the instructor as follows:

1. Enter the student's name.
2. Enter the school name.
3. Date and sign the Certificate.
4. It is recommended that the Certificate be stamped with the school seal.

COMPETENCY CHECKLIST

____

STUDENT NAME

The following is a list of competency/tasks which will enable a student to meet the requirements for the identified occupation.

Graphic Designer Layout Artist
141.061-018

( ) A 1-8
( ) B 1-8
( ) D 1-10
( ) F 1-24
( ) K 1-2

Photographer, Still
143.062-030

( ) A 1-8
( ) K 1-2
( ) M 1-21

Phototypesetter Operator
650.582-022

( ) A 1-8
( ) D 1-10

Printer
651.380-010

( ) A 1-8
( ) B 1-8
( ) C 1-7
( ) D 1-10
( ) E 1-5
( ) F 1-24
( ) G 1-6
( ) H 1-6
( ) I 1-26
( ) J 1-26
( ) K 1-2

Offset Press Operator I
651.482-010

( ) A 1-8
( ) H 1-6
( ) I 1-26

Offset-Duplicating Machine Operator
651.684-014

( ) A 1-8
( ) F 1-24
( ) H 1-6
( ) I 1-26

Bindery Worker
653.685-010

( ) A 1-8
( ) J 1-26

Offset Platemaker
971.381-018

( ) A 1-8
( ) G 1-6
( ) H 1-6

Stripper Photolithographic
972.381-022

( ) A 1-8
( ) G 1-6
( ) H 1-6
( ) K 1-2

Copy Cameraman
972.382-010

( ) A 1-8
( ) F 1-24
( ) K 1-2
( ) M 1-21

Photographer Lithographic
972.382-014

( ) A 1-8
( ) B 1-8
( ) C 1-7
( ) E 1-5
( ) F 1-24
( ) K 1-2
( ) M 1-21

Litho-Make Ready Assistant
972.664-010

( ) A 1-8
( ) B 1-8
( ) C 1-7

Paste-Up Copy Camera Operator
979.281-018

( ) A 1-8
( ) B 1-8
( ) C 1-7
( ) D 1-10
( ) E 1-5
( ) F 1-24
( ) K 1-2

Graphic Art Technician
979.382-018

( ) A 1-8
( ) F 1-24
( ) G 1-6
( ) H 1-6
( ) J 1-26
( ) K 1-2

Print Shop Helper
979.684-026

( ) A 1-8
( ) D 1-10
( ) G 1-6
( ) H 1-6
( ) I 1-26

Screen Printer
979.684-034

( ) A 1-8
( ) B 1-8
( ) E 1-5
( ) K 1-2
( ) L 1-11

CERTIFICATE OF COMPETENCY

This is to Certify that

Kim Russell

of

Athens Area Vo-Tech School

SAMPLE

has successfully mastered the competencies required to perform the job of STRIPPER, PHOTOLITHOGRAPHIC.

James H. Roper

June 1, 1981

The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Stripper, Photolithographic.

STRIPPER, PHOTOLITHOGRAPHIC
(D.O.T. 972.382-022)

A1	Identifying shop organization and maintenance procedures
A2	Identifying the origins of the printing industry
A3	Identifying the five major areas in graphic communications
A4	Identifying equipment used in graphic arts
A5	Identifying the six major print processes
A6	Identifying the production cycle of a printed product
A7	Identifying legal restrictions on printing
A8	Identifying careers in graphic communication
G1	Demonstrating an understanding of basic principles of stripping and platemaking
G2	Laying out and stripping a flat
G3	Stripping a flat using screen tints
G4	Stripping a flat with multiple registration
G5	Laying out and stripping flats with line and halftone combinations
G6	Using step and repeat technique to strip a multi-image flat
H1	Identifying parts and controls of a flip-top platemaker
H2	Identifying types of lithographic plates
H3	Determining exposure and processing presensitized plates
H4	Making plates
H5	Preparing direct image masters
H6	Using screen tints
K1	Performing message analysis
K2	Identifying specifications for a printing job

CERTIFICATE OF COMPETENCY

This is to Certify that

____

of

____

has successfully mastered the competencies required to perform the job of GRAPHIC DESIGNER LAYOUT ARTIST.

____

____

The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Graphic Designer Layout Artist.

GRAPHIC DESIGNER LAYOUT ARTIST
(D.O.T. 141.061-018)

A1	Identifying shop organization and maintenance procedures
A2	Identifying the origins of the printing industry
A3	Identifying the five major areas in graphic communications
A4	Identifying equipment used in graphic arts
A5	Identifying the six major print processes
A6	Identifying the production cycle of a printed product
A7	Identifying legal restrictions on printing
A8	Identifying careers in graphic communication
B1	Identifying the required knowledge, skills and abilities for people working in layout and design
B2	Identifying examples of work performed in layout and design
B3	Identifying design principles and fundamentals of layout
B4	Identifying basic drawing tools and their applications in graphic arts
B5	Applying layout fundamentals
B6	Design advertising layouts
B7	Computing enlargements and reductions for reproduction
B8	Identifying careers in layout
D1	Understanding and using the printer's point system
D2	Identifying methods of type composition for reproduction
D3	Applying principles of copy fitting
D4	Identifying and classifying type composition and equipment
D5	Identifying image generation procedures
D6	Identifying cold type composition
D7	Identifying phototypesetting methods
D8	Operating a photo composer
D9	Operating the varityper headliner
D10	Performing proof-reading operations
E1	Designing with type
E2	Identifying basic lettering procedures
E3	Rendering letter forms
E4	Performing image creation by technical illustration
E5	Designing and printing a resume
F1	Identifying characteristics of film
F2	Using sensitivity scales to develop line negatives
F3	Predicting the effects of variables in processing
F4	Demonstrating an understanding of the basic principles of line photography
F5	Setting up the darkroom
F6	Identifying the principles of the process camera
F7	Identifying the basic parts of the process camera
F8	Identifying basic process camera adjustments and movements
F9	Using F-numbers to adjust exposure
F10	Determining camera settings for enlargements and reductions
F11	Demonstrating and understanding the principle of image inversion and the process of focusing a process camera
F12	Evaluating negatives
F13	Producing a line negative
F14	Producing enlarged and reduced negatives
F15	Making a two-step reduction
F16	Making a line negative from a continuous tone photograph
F17	Demonstrating an understanding of fundamental principles of halftone photography
F18	Determining density range of a halftone negative
F19	Using the graphic arts exposure computer to determine main and flash exposure
F20	Producing a halftone negative and contact print
F21	Evaluating halftone negatives
F22	Making a negative from a line mechanical with halftone paper points
F23	Using advanced halftone photography techniques
F24	Making halftones with kodalith autoscreen film
K1	Performing message analysis
K2	Identifying specifications for a printing job

CERTIFICATE OF COMPETENCY

This is to Certify that

of

has successfully mastered the competencies required to perform the job of PHOTOGRAPHER, STILL.

The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Photographer, Still.

PHOTOGRAPHER, STILL
(D.O.T. 143.062-030)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A5 Identifying the six major print processes
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
K1 Performing message analysis
K2 Identifying specifications for a printing job
M1 Identifying properties of light
M2 Identifying characteristics of perspective
M3 Identifying the rules of composition
M4 Identifying the basic parts of a camera
M5 Identifying basic types of cameras
M6 Using exposure controls
M7 Identifying lenses and focusing procedures
M8 Identifying the shutter and setting shutter speeds
M9 Maintaining cameras and equipment
M10 Loading 35mm film
M11 Choosing camera accessories
M12 Identifying characteristics of black and white film
M13 Determining exposure
M14 Developing a roll of black and white film
M15 Identifying printmaking process
M16 Identifying the components of the enlarger
M17 Making a print
M18 Making photographs using natural and artificial light sources
M19 Using special photographic techniques
M20 Mounting and matting prints

CERTIFICATE OF COMPETENCY

This is to Certify that

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of

____

has successfully mastered the competencies required to perform the job of ______PHOTOTYPESETTER OPERATOR______.

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The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Phototypesetter Operator.

PHOTOTYPESETTER OPERATOR
(D.O.T. 650.582-022)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A5 Identifying the six major print processes
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
D1 Understanding and using the printer's point system
D2 Identifying methods of type composition for reproduction
D3 Applying principles of copy fitting
D4 Identifying and classifying type composition and equipment
D5 Identifying image generation procedures
D6 Identifying cold type composition
D7 Identifying phototypesetting methods
D8 Operating a photo composer
D9 Operating the varityper headliner
D10 Performing proof-reading operations

CERTIFICATE OF COMPETENCY

This is to Certify that

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of

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has successfully mastered the competencies required to perform the job of OFFSET PRESS OPERATOR I.

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____

The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Offset Press Operator I .

OFFSET PRESS OPERATOR I
(D.O.T. 651.482-010)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A5 Identifying the six major print processes
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
H1 Identifying parts and controls of a flip-top platemaker
H2 Identifying types of lithographic plates
H3 Determining exposure and processing presensitized plates
H4 Making plates
H5 Preparing direct image masters
H6 Using screen tints
I1 Identifying major printing processes
I2 Identifying basic methods of printing with plates
I3 Identifying basic theory of offset printing
I4 Identifying basic principles of offset reproduction
I5 Identifying operating systems
I6 Identifying the systems of the printing unit
I7 Identifying inking system
I8 Identifying the components of the damping system
I9 Identifying the parts of the paper feeding, register and delivery systems
I10 Operating the press
I11 Cleaning the press, day-to-day
I12 Cleaning the press, long term
I13 Troubleshooting moisture problems
I14 Identifying problems related to registration adjustments
I15 Identifying and selecting offset printing inks
I16 Printing with ink other than black
I17 Using a metal plate
I18 Using an electrostatic plate
I19 Testing roller pressure
I20 Diagnosing problems related to blanket and blanket cylinder
I21 Adjusting feed and delivery systems for 11" x 17" paper
I22 Adjusting the press to print on 3 1/2" x 5" notecard
I23 Adjusting feeding and delivery systems for 4" x 9 1/2" legal envelopes
I24 Printing both sides of a copy
I25 Printing copies on 11" x 17" paper
I26 Printing signatures

CERTIFICATE OF COMPETENCY

This is to Certify that

of

has successfully mastered the competencies required to perform the job of OFFSET-DUPLICATING MACHINE OPERATOR.

The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Offset-Duplicating Machine Operator.

OFFSET-DUPLICATING MACHINE OPERATOR
(D.O.T. 651.684-014)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
F1 Identifying characteristics of film
F2 Using sensitivity scales to develop line negatives
F3 Predicting the effects of variables in processing
F4 Demonstrating an understanding of the basic principles of line photography
F5 Setting up the darkroom
F6 Identifying the principles of the process camera
F7 Identifying the basic parts of the process camera
F8 Identifying basic process camera adjustments and movements
F9 Using F-numbers to adjust exposure
F10 Determining camera settings for enlargements and reductions
F11 Demonstrating and understanding the principle of image inversion and the process of focusing a process camera
F12 Evaluating negatives
F13 Producing a line negative
F14 Producing enlarged and reduced negatives
F15 Making a two-step reduction
F16 Making a line negative from a continuous tone photograph
F17 Demonstrating an understanding of fundamental principles of halftone photography
F18 Determining density range of a halftone negative
F19 Using the graphic arts exposure computer to determine main and flash exposure
F20 Producing a halftone negative and contact print
F21 Evaluating halftone negatives
F22 Making a negative from a line mechanical with halftone paper points
F23 Using advanced halftone photography techniques
F24 Making halftones with kodalith autoscreen film
H1 Identifying parts and controls of a flip-top platemaker
H2 Identifying types of lithographic plates
H3 Determining exposure and processing presensitized plates
H4 Making plates
H5 Preparing direct image masters
H6 Using screen tints
I1 Identifying major printing processes
I2 Identifying basic methods of printing with plates
I3 Identifying basic theory of offset printing
I4 Identifying basic principles of offset reproduction
I5 Identifying operating systems
I6 Identifying the systems of the printing unit
I7 Identifying inking system
I8 Identifying the components of the damping system
I9 Identifying the parts of the paper feeding, register and delivery systems
I10 Operating the press
I11 Cleaning the press, day-to-day
I12 Cleaning the press, long-term
I13 Troubleshooting moisture problems
I14 Identifying problems related to registration adjustments
I15 Identifying and selecting offset printing inks
I16 Printing with ink other than black
I17 Using a metal plate
I18 Using an electrostatic plate
I19 Testing roller pressure
I20 Diagnosing problems related to blanket and blanket cylinder
I21 Adjusting feed and delivery systems for 11" x 17" paper
I22 Adjusting the press to print on 3 1/2" x 5" notecard
I23 Adjusting feeding and delivery systems for 4" x 9 1/2" legal envelopes
I24 Printing both sides of a copy
I25 Printing copies on 11" x 17" paper
I26 Printing signatures

CERTIFICATE OF COMPETENCY

This is to Certify that

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of

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has successfully mastered the competencies required to perform the job of ______ BINDERY WORKER ______.

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The student named on this certificate had demonstrated mastery of the following tasks required to perform the job of Bindery Worker.

BINDERY WORKER
(D.O.T. 653.685-010)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A5 Identifying the six major print processes
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
J1 Identifying manufacturing process in papermaking and finishing
J2 Determining special problems with paper felt side and wire side
J3 Identifying paper grades and characteristics
J4 Identifying paper grain direction
J5 Identifying special problems with paper shrinking and stretching
J6 Identifying types of paper
J7 Diagnosing and correcting special problems with paper runability and print quality
J8 Ordering paper
J9 Identifying bindery methods and operations
J10 Identifying bindery and finishing procedures
J11 Identifying the systems approach to building occupational skills in bindery and finishing procedures
J12 Identifying careers in bindery and finishing procedures
J13 Identifying the procedures for paper cutting
J14 Cutting paper into standard press size
J15 Cutting paper into six practical sizes
J16 Cutting paper into eight practical sizes
J17 Cutting paper into five practical sizes
J18 Gathering, inserting and collating paper
J19 Operating the folder
J20 Identifying types of folders
J21 Identifying types of folds used for printed documents
J22 Scoring and slitting paper
J23 Drilling paper
J24 Padding and gluing paper
J25 Stitching and stapling final products
J26 Binding books through mechanical means

CERTIFICATE OF COMPETENCY

This is to Certify that

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of

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has successfully mastered the competencies required to perform the job of ______OFFSET PLATEMAKER______.

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The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Offset Platemaker.

OFFSET PLATEMAKER
(D.O.T. 971.381-018)

A1	Identifying shop organization and maintenance procedures
A2	Identifying the origins of the printing industry
A3	Identifying the five major areas in graphic communications
A4	Identifying equipment used in graphic arts
A5	Identifying the six major print processes
A6	Identifying the production cycle of a printed product
A7	Identifying legal restrictions on printing
A8	Identifying careers in graphic communication
G1	Demonstrating an understanding of basic principles of stripping and platemaking
G2	Laying out and stripping a flat
G3	Stripping a flat using screen tints
G4	Stripping a flat with multiple registration
G5	Laying out and stripping flats with line and halftone combinations
G6	Using step and repeat technique to strip a multi-image flat
H1	Identifying parts and controls of a flip-top platemaker
H2	Identifying types of lithographic plates
H3	Determining exposure and processing presensitized plates
H4	Making plates
H5	Preparing direct image masters
H6	Using screen tints

CERTIFICATE OF COMPETENCY

This is to Certify that

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of

____

has successfully mastered the competencies required to perform the job of STRIPPER, PHOTOLITHOGRAPHIC.

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____

The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Stripper, Photolithographic.

STRIPPER, PHOTOLITHOGRAPHIC
(D.O.T. 972.382-022)

A1	Identifying shop organization and maintenance procedures
A2	Identifying the origins of the printing industry
A3	Identifying the five major areas in graphic communications
A4	Identifying equipment used in graphic arts
A5	Identifying the six major print processes
A6	Identifying the production cycle of a printed product
A7	Identifying legal restrictions on printing
A8	Identifying careers in graphic communication
G1	Demonstrating an understanding of basic principles of stripping and platemaking
G2	Laying out and stripping a flat
G3	Stripping a flat using screen tints
G4	Stripping a flat with multiple registration
G5	Laying out and stripping flats with line and halftone combinations
G6	Using step and repeat technique to strip a multi-image flat
H1	Identifying parts and controls of a flip-top platemaker
H2	Identifying types of lithographic plates
H3	Determining exposure and processing presensitized plates
H4	Making plates
H5	Preparing direct image masters
H6	Using screen tints
K1	Performing message analysis
K2	Identifying specifications for a printing job

CERTIFICATE OF COMPETENCY

This is to Certify that

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of

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has successfully mastered the competencies required to perform the job of ______COPY CAMERAMAN______.

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The student named on this certificate has demonstrated mastery
of the following tasks required to perform the job of Copy Cameraman .

COPY CAMERAMAN
(D.O.T. 972.382-010)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A5 Identifying the six major print processes
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
F1 Identifying characteristics of film
F2 Using sensitivity scales to develop line negatives
F3 Predicting the effects of variables in processing
F4 Demonstrating an understanding of the basic principles of line photography
F5 Setting up the darkroom
F6 Identifying the principles of the process camera
F7 Identifying the basic parts of the process camera
F8 Identifying basic process camera adjustments and movements
F9 Using F-numbers to adjust exposure
F10 Determining camera settings for enlargements and reductions
F11 Demonstrating and understanding the principle of image inversion and the process of focusing a process camera
F12 Evaluating negatives
F13 Producing a line negative
F14 Producing enlarged and reduced negatives
F15 Making a two-step reduction
F16 Making a line negative from a continuous tone photograph
F17 Demonstrating an understanding of fundamental
F18 principles of halftone photography
F18 Determining density range of a halftone negative
F19 Using the graphic arts exposure computer to determine main and flash exposure
F20 Producing a halftone negative and contact print
F21 Evaluating halftone negatives
F22 Making a negative from a line mechanical with halftone paper points
F23 Using advanced halftone photography techniques
F24 Making halftones with kodalith autoscreen film
K1 Performing message analysis
K2 Identifying specifications for a printing job
M1 Identifying properties of light
M2 Identifying characteristics of perspective
M3 Identifying the rules of composition
M4 Identifying the basic parts of a camera
M5 Identifying basic types of cameras
M6 Using exposure controls
M7 Identifying lenses and focusing procedures
M8 Identifying the shutter and setting shutter speeds
M9 Maintaining cameras and equipment
M10 Loading 35mm film
M11 Choosing camera accessories
M12 Identifying characteristics of black and white film
M13 Determining exposure
M14 Developing a roll of black and white film
M15 Identifying print making process
M16 Identifying the components of the enlarger
M17 Making a print
M18 Making photographs using natural and artificial light sources
M19 Using special photographic techniques
M20 Mounting and matting prints

CERTIFICATE OF COMPETENCY

This is to Certify that

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of

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has successfully mastered the competencies required to perform the job of ______PHOTOGRAPHER LITHOGRAPHIC______.

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The student named on this certificate has demonstrated mastery
of the following tasks required to perform the job of Photographer Lithographic.

PHOTOGRAPHER LITHOGRAPHIC
(D.O.T. 972.382-014)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A5 Identifying the six major print processes
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
B1 Identifying the required knowledge, skills and abilities for people working in layout and design
B2 Identifying examples of work performed in layout and design
B3 Identifying design principles and fundamentals of layout
B4 Identifying basic drawing tools and their applications in graphic arts
B5 Applying layout fundamentals
B6 Designing advertising layouts
B7 Computing enlargements and reductions for reproduction
B8 Identifying careers in layout
C1 Identifying, cleaning and servicing the tools and equipment used for camera-ready art
C2 Preparing a general camera-ready copy
C3 Pasting up camera-ready copy
C4 Preparing line copy for reproduction
C5 Preparing a halftone copy for reproduction
C6 Preparing line and halftone copy for reproduction
C7 Identifying preparation procedures for a multi-color copy
E1 Designing with type
E2 Identifying basic lettering procedures
E3 Rendering letter forms
E4 Performing image creation by technical illustration
E5 Designing and printing a resume
F1 Identifying characteristics of film
F2 Using sensitivity scales to develop line negatives
F3 Producting the effects of variables in processing
F4 Demonstrating an understanding of the basic principles of line photography
F5 Setting up the darkroom
F6 Identifying the principles of the process camera
F7 Identifying the basic parts of the process camera
F8 Identifying basic process camera adjustments and movements
F9 Using F-numbers to adjust exposure
F10 Determining camera settings for enlargement and reduction
F11 Demonstrating and understanding the principle of image inversion and the process of focusing a process camera
F12 Evaluating negatives
F13 Producing a line negative
F14 Producing enlarged and reduced negatives
F15 Making a two-step reduction
F16 Making a line negative from a continuous tone photograph
F17 Demonstrating an understanding of fundamental principles of halftone photography
F18 Determining density range of a halftone negative
F19 Using the graphic arts exposure computer to determine main and flash exposure
F20 Producing a halftone negative and contact print
F21 Evaluating halftone negatives
F22 Making a negative from a line mechanical with halftone paper points
F23 Using advanced halftone photography techniques
F24 Making halftones with kodalith autoscreen film
K1 Performing message analysis
K2 Identifying specifications for a printing job
M1 Identifying properties of light
M2 Identifying characteristics of perspective
M3 Identifying the rules of composition
M4 Identifying the basic parts of a camera
M5 Identifying basic types of cameras
M6 Using exposure controls
M7 Identifying lenses and focusing procedures
M8 Identifying the shutter and setting shutter speeds
M9 Maintaining cameras and equipment
M10 Loading 35mm film
M11 Choosing camera accessories
M12 Identifying characteristics of black and white film
M13 Determining exposure
M14 Developing a roll of black and white film
M15 Identifying print making process
M16 Identifying the components of the enlarger
M17 Making a print
M18 Making photographs using natural and artificial light sources
M19 Using special photographic techniques
M20 Mounting and matting prints

CERTIFICATE OF COMPETENCY

This is to Certify that

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of

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has successfully mastered the competencies required to perform the job of LITHO-MAKE-READY ASSISTANT.

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The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Litho-Make-Ready Assistant.

LITHO-MAKE-READY ASSISTANT
(D.O.T. 972.664-010)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A5 Identifying the six major print processes
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
B1 Identifying the required knowledge, skills and abilities for people working in layout and design
B2 Identifying examples of work performed in layout and design
B3 Identifying design principles and fundamentals of layout
B4 Identifying basic drawing tools and their applications in graphic arts
B5 Applying layout fundamentals
B6 Designing advertising layouts
B7 Computing enlargements and reductions for reproduction
B8 Identifying careers in layout
C2 Preparing a general camera-ready copy
C3 Pasting up camera-ready copy
C4 Preparing line copy for reproduction
C5 Preparing a halftone copy for reproduction
C6 Preparing line and halftone copy for reproduction
C7 Identifying preparation procedures for a multi-color copy

CERTIFICATE OF COMPETENCY

This is to Certify that

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of

____

has successfully mastered the competencies required to perform the job of PASTE-UP COPY CAMERA OPERATOR.

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The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Paste-Up Copy Camera Operator .

PASTE-UP COPY CAMERA OPERATOR
(D.O.T. 979.381-018)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A5 Identifying the six major print processes
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
B1 Identifying the required knowledge, skills and abilities for people working in layout and design
B2 Identifying examples of work performed in layout and design
B3 Identifying design principles and fundamentals of layout
B4 Identifying basic drawing tools and their applications in graphic arts
B5 Applying layout fundamentals
B6 Designing advertising layouts
B7 Computing enlargements and reductions for reproduction
B8 Identifying careers in layout
C1 Identifying, cleaning and servicing the tools and equipment used for camera-ready art
C2 Preparing a general camera-ready copy
C3 Pasting up camera-ready copy
C4 Preparing line copy for reproduction
C5 Preparing halftone copy for reproduction
C6 Preparing line and halftone copy for reproduction
C7 Identifying preparation procedures for a multi-color copy
D1 Understanding and using the printer's point system
D2 Identifying methods of type composition for reproduction
D3 Applying principles of copy fitting
D4 Identifying and classifying type composition and equipment
D5 Identifying image generation procedures
D6 Identifying cold type composition
D7 Identifying phototypesetting methods
D8 Operating a photo composer
D9 Operating the varityper headliner
D10 Performing proof-reading operations
E1 Designing with type
E2 Identifying basic lettering procedures
E3 Rendering letter forms
E4 Performing image creation by technical illustration
E5 Designing and printing a resume
F1 Identifying characteristics of film
F2 Using sensitivity scales to develop line negatives
F3 Predicting the effects of variables in processing
F4 Demonstrating an understanding of the basic principles of line photography
F5 Setting up the darkroom
F6 Identifying the principles of the process camera
F7 Identifying the basic parts of the process camera
F8 Identifying basic process camera adjustments and movements
F9 Using F-numbers to adjust exposure
F10 Determining camera settings for enlargements and reductions
F11 Demonstrating and understanding the principle of image inversion and the process of focusing a process camera
F12 Evaluating negatives
F13 Producing a line negative
F14 Producing enlarged and reduced negatives
F15 Making a two-step reduction
F16 Making a line negative from a continuous tone photograph
F17 Demonstrating an understanding of fundamental principles of halftone photography
F18 Determining density range of a halftone negative
F19 Using the graphic arts exposure computer to determine main and flash exposure
F20 Producing a halftone negative and contact print
F21 Evaluating halftone negatives
F22 Making a negative from a line mechanical with halftone paper points
F23 Using advanced halftone photography techniques
F24 Making halftones with kodalith autoscreen film
K1 Performing message analysis
K2 Identifying specifications for a printing job

CERTIFICATE OF COMPETENCY

This is to Certify that

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of

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has successfully mastered the competencies required to perform the job of GRAPHIC ARTS TECHNICIAN.

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The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Graphic Arts Technician.

GRAPHIC ARTS TECHNICIAN
(D.O.T. 979.382-018)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A5 Identifying the six major print processes
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
F1 Identifying characteristics of film
F2 Using sensitivity scales to develop line negatives
F3 Predicting the effects of variables in processing
F4 Demonstrating an understanding of the basic principles of line photography
F5 Setting up the darkroom
F6 Identifying the principles of the process camera
F7 Identifying the basic parts of the process camera
F8 Identifying basic process camera adjustments and movements
F9 Using F-numbers to adjust exposure
F10 Determining camera settings for enlargement and reduction
F11 Demonstrating and understanding the principle of image inversion and the process of focusing a process camera
F12 Evaluating negatives
F13 Producing a line negative
F14 Producing enlarged and reduced negatives
F15 Making a two-step reduction
F16 Making a line negative from a continuous tone photograph
F17 Demonstrating an understanding of fundamental principles of halftone photography
F18 Determining density range of a halftone negative
F19 Using the graphic arts exposure computer to determine main and flash exposure
F20 Producing a halftone negative and contact print
F21 Evaluating halftone negatives
F22 Making a negative from a line mechanical with halftone paper points
F23 Using advanced halftone photography techniques
F24 Making halftones with kodalith autoscreen film
G1 Demonstrating an understanding of basic
G2 Principle of stripping and platemaking
G2 Laying out and stripping a flat
G3 Stripping a flat using screen tints
G4 Stripping a flat with multiple registration
G5 Laying out and stripping flats with line and halftone combinations
G6 Using step and repeat technique to strip a multi-image flat
H1 Identifying parts and controls of flip-top platemaker
H2 Identifying types of lithographic plates
H3 Determining exposure and processing presensitized plates
H4 Making plates
H5 Preparing direct image masters
H6 Using screen tints
J1 Identifying manufacturing process in papermaking and finishing
J2 Determining special problems with paper felt side and wire side
J3 Identifying paper grades and characteristics
J4 Identifying paper grain direction
J5 Identifying special problems with paper shrinking and stretching
J6 Identifying types of paper
J7 Diagnosing and correcting special problems with paper runability and print quality
J8 Ordering paper
J9 Identifying bindery methods and operations
J10 Identifying bindery and finishing procedures
J11 Identifying the systems approach to building occupational skills in bindery and finishing procedures
J12 Identifying careers in bindery and finishing procedures
J13 Identifying the procedures for paper cutting
J14 Cutting paper into standard press size
J15 Cutting paper into six practical sizes
J16 Cutting paper into eight practical sizes
J17 Cutting paper into five practical sizes
J18 Gathering, inserting and collating paper
J19 Operating the folder
J20 Identifying types of folders
J21 Identifying types of folds used for printed documents
J22 Scoring and slitting paper
J23 Drilling paper
J24 Padding and gluing paper
J25 Stitching and stapling final products
J26 Binding books through mechanical means
K1 Performing message analysis
K2 Identifying specifications for a printing job

CERTIFICATE OF COMPETENCY

This is to Certify that

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of

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has successfully mastered the competencies required to perform the job of PRINT SHOP HELPER.

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The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Print Shop Helper .

PRINT SHOP HELPER
(D.O.T. 979.684-026)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A5 Identifying the six major print processes
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
D1 Understanding and using the printer's point system
D2 Identifying methods of type composition for reproduction
D3 Applying principles of copy fitting
D4 Identifying and classifying type composition and equipment
D5 Identifying image generation procedures
D6 Identifying cold type composition
D7 Identifying phototypesetting methods
D8 Operating a photo composer
D9 Operating the varityper headliner
D10 Performing proof-reading operations
G1 Demonstrating an understanding of basic principles of stripping and plate making
G2 Laying out and stripping a flat
G3 Stripping a flat using screen tints
G4 Stripping a flat with multiple registration
G5 Laying out and stripping flats with line and halftone combinations
G6 Using step and repeat technique to strip a multi-image flat
H1 Identifying parts and controls of a flip-top platemaker
H2 Identifying types of lithographic plates
H3 Determining exposure and processing presensitized plates
H4 Making plates
H5 Preparing direct image masters
H6 Using screen tints
I1 Identifying major printing processes
I2 Identifying basic methods of printing with plates
I3 Identifying basic theory of offset printing
I4 Identifying basic principles of offset reproduction
I5 Identifying operating systems
I6 Identifying the systems of the printing unit
I7 Identifying inking system
I8 Identifying the components of the damping system
I9 Identifying the parts of the paper feeding, register and delivery systems
I10 Operating the press
I11 Cleaning the press, day-to-day
I12 Cleaning the press, long-term
I13 Troubleshooting moisture problems
I14 Identifying problems related to registration adjustments
I15 Identifying and selecting offset printing inks
I16 Printing with ink other than black
I17 Using a metal plate
I18 Using an electrostatic plate
I19 Testing roller pressure
I20 Diagnosing problems related to blanket and blanket cylinder
I21 Adjusting feed and delivery systems for 11" x 17" paper
I22 Adjusting the press to print on 3 1/2" x 5" note-card
I23 Adjusting feeding and delivery systems for 4" x 9 1/2" legal envelopes
I24 Printing both sides of a copy
I25 Printing copies on 11" x 17" paper
I26 Printing signatures

CERTIFICATE OF COMPETENCY

This is to Certify that

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of

____

has successfully mastered the competencies required to perform the job of SCREEN PRINTER.

____

____

The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Screen Printer.

SCREEN PRINTER
(D.O.T. 979.684-034)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A5 Identifying the six major print processes
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
B1 Identifying the required knowledge, skills and abilities for people working in layout and design
B2 Identifying examples of work performed in layout and design
B3 Identifying design principles and fundamentals of layout
B4 Identifying basic drawing tools and their applications in graphic arts
B5 Applying layout fundamentals
B6 Designing advertising layouts
B7 Computing enlargements and reductions for reproduction
B8 Identifying careers in layout
E1 Designing with type
E2 Identifying basic lettering procedures
E3 Rendering letter forms
E4 Performing image creation by technical illustration
E5 Designing and printing a resume
K1 Performing message analysis
K2 Identifying specifications for a printing job
L1 Selecting a job and making a film positive
L2 Identifying printing done by silk screen process
L3 Identifying and using equipment and inks for hand method screen printing
L4 Identifying and using types of drying equipment and drying racks used in the hand-screen printing process
L5 Building a silk screen frame
L6 Stretching and cleaning silk
L7 Prepare and adhere a hand cut screen stencil
L8 Making a photographic screen
L9 Running a one-color photographic screen
L10 Running a one-color poster
L11 Screening on three dimensional objects

CERTIFICATE OF COMPETENCY

This is to Certify that

____

of

____

has successfully mastered the competencies required to perform the job of ______________PRINTER______________.

____

____

The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Printer.

PRINTER
(D.O.T. 651-380-010)

A1 Identifying shop organization and maintenance procedures
A2 Identifying the origins of the printing industry
A3 Identifying the five major areas in graphic communications
A4 Identifying equipment used in graphic arts
A5 Identifying the six major print processes
A6 Identifying the production cycle of a printed product
A7 Identifying legal restrictions on printing
A8 Identifying careers in graphic communication
B1 Identifying the required knowledge, skills and abilities for people working in layout and design
B2 Identifying examples of work performed in layout and design
B3 Identifying design principles and fundamentals of layout
B4 Identifying basic drawing tools and their applications in graphic arts
B5 Applying layout fundamentals
B6 Designing advertising layouts
B7 Computing enlargements and reductions for reproduction
B8 Identifying careers in layout
C1 Identifying, cleaning and servicing the tools and equipment used for camera-ready art
C2 Preparing a general camera-ready copy
C3 Pasting up camera-ready copy
C4 Preparing line copy for reproduction
C5 Preparing a halftone copy for reproduction
C6 Preparing line and halftone copy for reproduction
C7 Identifying preparation procedures for a multicolor copy
D1 Understanding and using the printer's point system
D2 Identifying methods of type composition for reproduction
D3 Applying principles of copy fitting
D4 Identifying and classifying type composition and equipment
D5 Identifying image generation procedures
D6 Identifying cold type composition
D7 Identifying phototypesetting methods
G1 Demonstrating an understanding of basic principles of stripping and platemaking
G2 Laying out and stripping a flat
G3 Stripping a flat using screen tints
G4 Stripping a flat with multiple registration
G5 Laying out and stripping flats with line and halftone combinations
G6 Using step and repeat technique to strip a multi-image flat
H1 Identifying parts and controls of a flip-top platemaker
H2 Identifying types of lithographic plates
H3 Determining exposure and processing presensitized plates
H4 Making plates
H5 Preparing direct image masters
H6 Using screen tints
I1 Identifying major printing processes
I2 Identifying basic methods of printing with plates
I3 Identifying basic theory of offset printing
I4 Identifying basic principles of offset reproduction
I5 Identifying operating systems
I6 Identifying the systems of the printing unit
I7 Identifying inking system
I8 Identifying the components of the damping system
I9 Identifying the parts of the paper feeding, register and delivery systems
I10 Operating the press
I11 Cleaning the press, day-to-day
I12 Cleaning the press, long term
I13 Troubleshooting moisture problems
I14 Identifying problems related to registration adjustments
I15 Identifying and selecting offset printing inks
I16 Printing with ink other than black
I17 Using a metal plate
I18 Using an electrostatic plate
I19 Testing roller pressure
I20 Diagnosing problems related to blanket and blanket cylinder
I21 Adjusting feed and delivery systems for 11" x 17" paper
I22 Adjusting the press to print on 3 1/2" x 5" notecard
I23 Adjusting feeding and delivery systems for 4" x 9 1/2" legal envelopes

D8 Operating a photo composer
D9 Operating the varityper headliner
D10 Performing proof-reading operations
E1 Designing with type
E2 Identifying basic lettering procedures
E3 Rendering letter forms
E4 Performing image creation by technical illustration
E5 Designing and printing a resume
F1 Identifying characteristics of film
F2 Using sensitivity scales to develop line negatives
F3 Predicting the effects of variables in processing
F4 Demonstrating an understanding of the basic principles of line photography
F5 Setting up the darkroom
F6 Identifying the principles of the process camera
F7 Identifying the basic parts of the process camera
F8 Identifying basic process camera adjustments and movements
F9 Using F-numbers to adjust exposure
F10 Determining camera settings for enlargements and reductions
F11 Demonstrating and understanding the principle of image inversion and the process of focusing a process camera
F12 Evaluating negatives
F13 Producing a line negative
F14 Producing enlarged and reduced negatives
F15 Making a two-step reduction
F16 Making a line negative from a continuous tone photograph
F17 Demonstrating an understanding of fundamental principles of halftone photography
F18 Determining density range of a halftone negative
F19 Using the graphic arts exposure computer to determine main and flash exposure
F20 Producing a halftone negative and contact print
F21 Evaluating halftone negatives
F22 Making a negative from a line mechanical with halftone paper points
F23 Using advanced halftone photography techniques
F24 Making halftones with kodalith autoscreen film

I24 Printing both sides of a copy
I25 Printing copies on 11" x 17" paper
I26 Printing signatures
J1 Identifying manufacturing process in papermaking and finishing
J2 Determining special problems with paper felt side and wire side
J3 Identifying paper grades and characteristics
J4 Identifying paper grain direction
J5 Identifying special problems with paper runability and print quality
J6 Identifying types of paper
J7 Diagnosing and correcting special problems with paper runability and print quality
J8 Ordering paper
J9 Identifying bindery methods and operations
J10 Identifying bindery and finishing procedures
J11 Identifying the systems approach to building occupational skills in bindery and finishing procedures
J12 Identifying careers in bindery and finishing procedures
J13 Identifying the procedures for paper cutting
J14 Cutting paper into standard press size
J15 Cutting paper into six practical sizes
J16 Cutting paper into eight practical sizes
J17 Cutting paper into five practical sizes
J18 Gathering, inserting and collating paper
J19 Operating the folder
J20 Identifying types of folders
J21 Identifying types of folds used for printed documents
J22 Scoring and slitting paper
J23 Drilling paper
J24 Padding and gluing paper
J25 Stitching and stapling final products
J26 Binding books through mechanical means
K1 Performing message analysis
K2 Identifying specifications for a printing job

SECTION VIII

SPECIAL NEEDS STUDENT

WORKING WITH SPECIAL NEEDS STUDENTS

Introduction

Special needs students are those who are designated as handicapped and/or disadvantaged. The 1976 vocational education amendment defines handicapped individuals as:

> Persons who are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, health impaired, or persons with other specific disabilities, who by reason thereof require special education and related services and who cannot succeed in the regular vocational education programs.

In Title II of the 1976 education amendments disadvantaged persons are defined as:

> Persons (other than handicapped persons) who have academic or economic disadvantages and who require special services, assistance or programs in order to enable them to succeed in vocational education programs.

Federal legislation requires that these special people be given an opportunity to function in a regular classroom. This section provides information on how special needs students are identified and how they can be mainstreamed into regular educational environments.

Figure One presents a model depicting various activities of the process in identifying and mainstreaming special needs students. These activities are conducted at three levels: the system level, the school level and the classroom level. All three levels must work together if implementation of the process is to be effective.

Identification Of The Special Needs Student

Through a variety of pre-testing procedures, special needs students are identified and their potentials are evaluated at the

SPECIAL NEEDS MAINSTREAMING MODEL

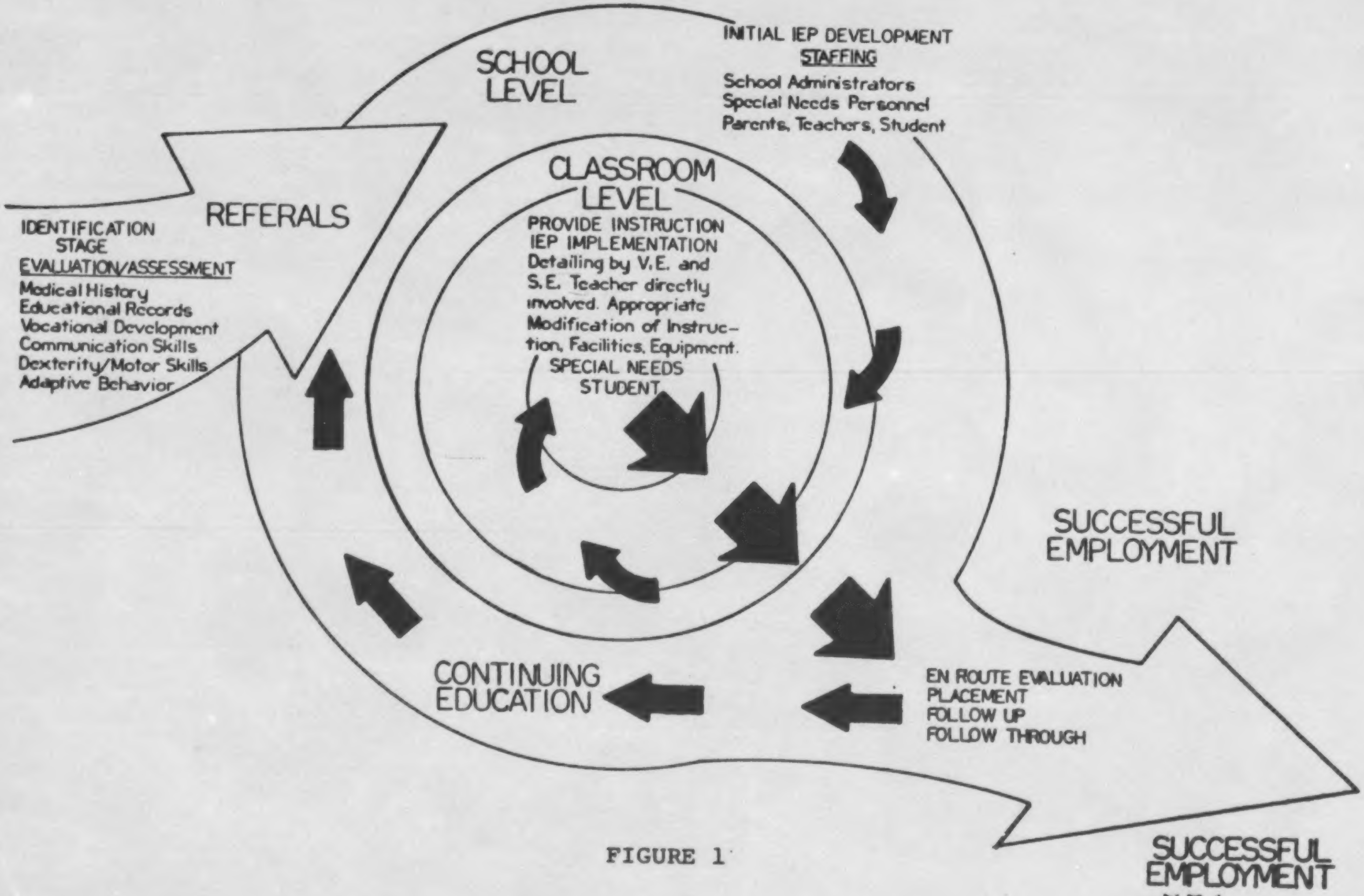

SCHOOL LEVEL
INITIAL IEP DEVELOPMENT
STAFFING
School Administrators
Special Needs Personnel
Parents, Teachers, Student
REFERALS
IDENTIFICATION STAGE
EVALUATION/ASSESSMENT
Medical History
Educational Records
Vocational Development
Communication Skills
Dexterity/Motor Skills
Adaptive Behavior
CLASSROOM LEVEL
PROVIDE INSTRUCTION
IEP IMPLEMENTATION
Detailing by V.E. and S.E. Teacher directly involved. Appropriate Modification of Instruction, Facilities, Equipment.
SPECIAL NEEDS STUDENT
SUCCESSFUL EMPLOYMENT
EN ROUTE EVALUATION
PLACEMENT
FOLLOW UP
FOLLOW THROUGH
CONTINUING EDUCATION
SUCCESSFUL EMPLOYMENT

FIGURE 1

system level. This evaluation process consists of collecting and assessing the following data for each student:

- -Medical History
- -Educational Records
- -Vocational Development
- -Communication Skills
- -Dexterity/Motor Skills
- -Adaptive Behavior

When this procedure has been completed, the system personnel refers the student to the appropriate school level personnel.

Development of the Plan

At the school level, an Individual Education Plan (IEP) is developed for each special needs student. An IEP is a written plan which describes the educational objectives, both long and short term, and the support services for a special needs student. The plan is developed by the school administration, special education personnel, teacher(s) directly involved with the student and the parent(s). In some cases, the student may help with the development.

Implementing the I.E.P.

The actual implementing of the I.E.P. begins at the classroom level. The purpose of the teacher dealing with the special needs student is to help the student set realistic goals, identify the barriers which make it difficult for the student to learn and adapt the curriculum and/or facilities with reference to the I.E.P. so the student can learn while overcoming personal barriers.

Special needs students have problems which hinder their learning. Therefore, a teacher's job becomes more complicated than when teaching "regular" students. Handicapped students may have a variety of problems - mental, physical and/or emotional.

Academically disadvantaged students may exhibit language deficiencies, reading and writing deficiencies, computational deficiencies and general educational deficiencies. Economically disadvantaged students may possess an inability to concentrate because their primary needs - food, shelter, clothing - are not adequately met due to lack of money.

By considering these problems, teachers can modify existing programs to accommodate the needs of special needs learners. Some suggestions which may prove beneficial in modifying an existing curriculum are listed below:

- Prepare instructional materials in greater detail and assign work in shorter units.
- Provide more frequent evaluation of student's progress and provide opportunities for remedial work.
- Be aware of the student's limited vocabulary.
- Be aware of the student's inability to understand abstractions and generalizations and prepare materials accordingly.
- Keep the student aware of his or her progress and make the student feel he or she can succeed.
- Use real teaching aids, live work and practical experiences whenever possible.
- Choose reading material which is at the student's level, interest and experience.
- Use constructive criticism only.
- Use peer instruction whenever possible.
- Allow the student to advance at his or her own pace.
- Use the part-to-whole learning concept in adapting materials.

Materials Which Can Be Used to Teach Disadvantaged

In Georgia an effective set of materials has been developed to be used with a program to help disadvantaged students adjust to life and work situations. This program is called CVAE or Coordinated Vocational Academic Education. The CVAE program is organized with a coordinator who is responsible for the type of instruction the students receive, and a team of teachers assigned to the coordinator who work cooperatively to help the disadvantaged students learn to enjoy school and become more successful students. CVAE materials include visuals in the form of synchronized slide/ tape presentations. These units are designed to help the disadvantaged student become more successful in school, learn good work habits, become an aware consumer, and develop a better self-image and appearance. (Although designed especially for disadvantaged students, CVAE may also be used in regular classroom situations). The vocational education teacher should work with the CVAE coordinator to design a program of study for the disadvantaged students in areas in which the student needs help.

In some cases, facilities, must be modified for handicapped special needs students. In general, as long as the classroom/ shop meets federal guidelines for barrier free design, extensive facility changes need not be made. For visually impaired students, for example, let the student locate in the classroom where he or she can see best even to the point of moving the desk or work station as a portable unit. In the case of orthopedically handicapped, some changes may have to be made to shop machinery to allow the student to use it. This may involve more convenient controls or special seating where the student would normally stand. In making these changes, special education expertise would be helpful.

Evaluation

Evaluation of the student's program should consist of:

-En-route evaluation (formative) to monitor the student's progress through the program.

-Summative evaluation upon completion of the program to determine job readiness.

-Follow-up after placement to determine if the student is successful on the job.

-Follow-through activities designed to identify any further training needed, which is indicated by the follow-up procedure.

Working with special needs students is much more demanding of the system, the school and the classroom teacher. However, with their patience and understanding, special needs students can not only succeed, but in many cases excell.

RESOURCES

To aid the teacher in modifying materials for special needs categories, the following references are listed by category. These are suggested references only as a world of materials exist on this subject.

Mentally Retarded

A Curriculum Guide for Teachers of Educable Mentally Retarded. Danville, Ill.: The Interstate Printers and Publishing Co., Inc.

High, Elizabeth C., and Moyers, Kathy L. Training Manual: Developing Pre-Vocational/Vocational Skills in Developmentally Disabled Persons. Washington, D.C.: Job Development Laboratory, George Washington University, 1976.

Kolstoe, Oliver P. Teaching Educable Mentally Retarded Children. Holt, Rinehart and Winston, 1976.

Mulligan, Robert E.; Gavin, Donald and Conaley, James. Comprehensive Career Education Curriculum Guide for the Trainable. New Brunswick, N.J.: Rutgers Vocational-Technical Curriculum Laboratory, 1977.

Introduction to Vocations for Educable Mentally Retarded. New Jersey: New Jersey Department of Education.

State of Ohio Curriculum Guide for Moderately Retarded Learners. Columbus, Ohio: Ohio Department of Education, 1977.

Tucker, Mark M. Learning through Curriculum Modification; A Blueprint to Teaching the Mentally Retarded. Johnstown, PA.: Mafex Associates, Inc., 1976.

Watson, Marjorie. Mainstreaming the Educable Mentally Retarded. Washington, D.C., NEA, 1975.

Hearing Impaired

Alvin, Howard P. The Evolution of an Evaluation Design for Evaluating Secondary Programs for the Deaf in Vocational Occupational-Technical Education (VOTE) Programs. ERIC - ED 123-241.

Guidelines: Educational Planning for the Hearing Handicapped. North Carolina Public Schools. Division for Exceptional Children, North Carolina Department of Public Instruction, Raleigh, N.C., 1977.

Munson, Harold L.; Eglston, Judy Cobb and Phillips, Gordon B. *Career Education for Deaf Students: An Inservice Leader's Guide*. University of Rochester, College of Education, Center for the Study of Helping Services, Rochester, N.Y. 1975.

Nix, Gary W. *Mainstreaming Education for Hearing Impaired Children and Youth*. Grune and Stratton, 1976.

Orthopedically and Other Health

A Model Plan for a Cooperative Vocational Rehabilitation Program. Office of Human Development, Rehabilitation Services and Administration. Department of Health, Education and Welfare, Washington, D.C.

Mallix, Kalisanker and Mueller, Jim. *Vocational Aids and Enhanced Productivity of the Severely Disabled*. The George Washington University Rehabilitation Research and Training Center, Washington, D.C. 1975.

McCarthy, Henry and Smart, Landon. *Recommendations for Enhancing Employment Prospects of Handicapped Individuals*. Comps. Human Resources Center, Albertson, L. I., 1978.

Duncan, John, et al. *Environmental Modifications for the Visually Impaired: A Handbook*. Visual Impairment and Blindness, December 1977, p. 442-455.

Disadvantaged

Guidelines for Methods and Techniques of Teaching Disadvantaged Students. Division of Vocational Education, Virginia Polytechnic Institute and State University, Blackburg, VA.

A Handbook for Developing Programs and Services for Disadvantaged Students. Department of Vocational Education Studies, College of Education, Southern Illinois, University of Carbondale, Carbondale, Ill. 62901

By Program

Adaption of Home Economics Curricula for Special Needs. North Dakota Research Coordination Unit, State Board for Vocational Education, State Office Building, Bismarck, ND.

Auto Body: An Adaptive and Developmental Program for Special Needs Students. Vocational-Technical Curriculum Laboratory, Rutgers - The State University, New Brunswick, N.J. 1976.

Floriculture Board of Cooperative Educational Services of Nassaw County, Division of Occupational Education, Division of Special Education, Westburg, NY 1975.

Grubb, Francine. *Basic Business* - A Teacher's Guide to an Employment Orientation Course for Special Needs Students. Vocational Technical Curriculum Laboratory, Rutgers - The State University, New Brunswick, N.J. 1976.

Home Economics and the Exceptional Student: A Handbook for Home Economics Teachers Working with Mentally Retarded Students. Vocational-Technical Curriculum Laboratory, Rutgers - The State University, New Brunswick, N.J. 1976.

Troutman, Carol M. *Introduction to Office Occupations*. Vocational-Technical Curriculum Laboratory, Rutgers - The State University, New Brunswick, N.J. 1974.

Working with the Handicapped in the Vocational Home Economics Classroom. Division of Vocational Education, State of Ohio, Columbus, Ohio.

Coordinated Vocational Education and Training (C.V.E.T.) manuals for disadvantaged, available from: Oklahoma State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, 1515 West Sixth Avenue, Stillwater, Oklahoma 74074.

-CVET Construction	3100219	Teacher's Guide
	3100209	Student
-CVET General Mechanics	3100239	Teacher's Guide
	3100229	Student

General Special Needs

A Handbook for Modifying Vocational Curricula for Handicapped Students. Wisconsin Vocational Studies Center, University of Wisconsin, Madison, May 1980.

Bottoms, J.E. and Scott, C.P. Supportive services for special student groups. In J.E. Wall (ed.), *Vocational Education for Special Groups*. Sixth Yearbook, Washington, D.C.: American Vocational Association, 1976.

Gill, Douglas H. and Scott, C. Paul. A practical model for mainstreaming handicapped learners in vocational education. *The Journal for Vocational Special Needs Education*, Vol. 1, No. 3, April, 1979, pp. 3-7.

Gugerty, J., et al. *Tools, Equipment and Machinery Adapted for the Vocational Educator and Employment of the Handicapped*. Project #498749006, Wisconsin Vocational Studies Center, Madison, Wisconsin, January 1981.

Hull, Marc E., Berry, Owen J. and Clark, Donald L. Procedures for Teaching Vocational Concepts to Students with Special Needs. Texas A & M University, Final Report Project 62350274, June 1976.

The Related Vocational Instruction Program. Georgia's Approach to Vocational Education for the Handicapped at the Secondary level, Douglas H. Gill, Project Coordinator, Vocational Programs for the Handicapped, Georgia Southern College, Statesboro, Georgia.

Vocational Educational Resource Materials, A Bibliography of Materials for Handicapped and Special Education. Third edition, 1978. Wisconsin Vocational Studies Center, University of Wisconsin - Madison.

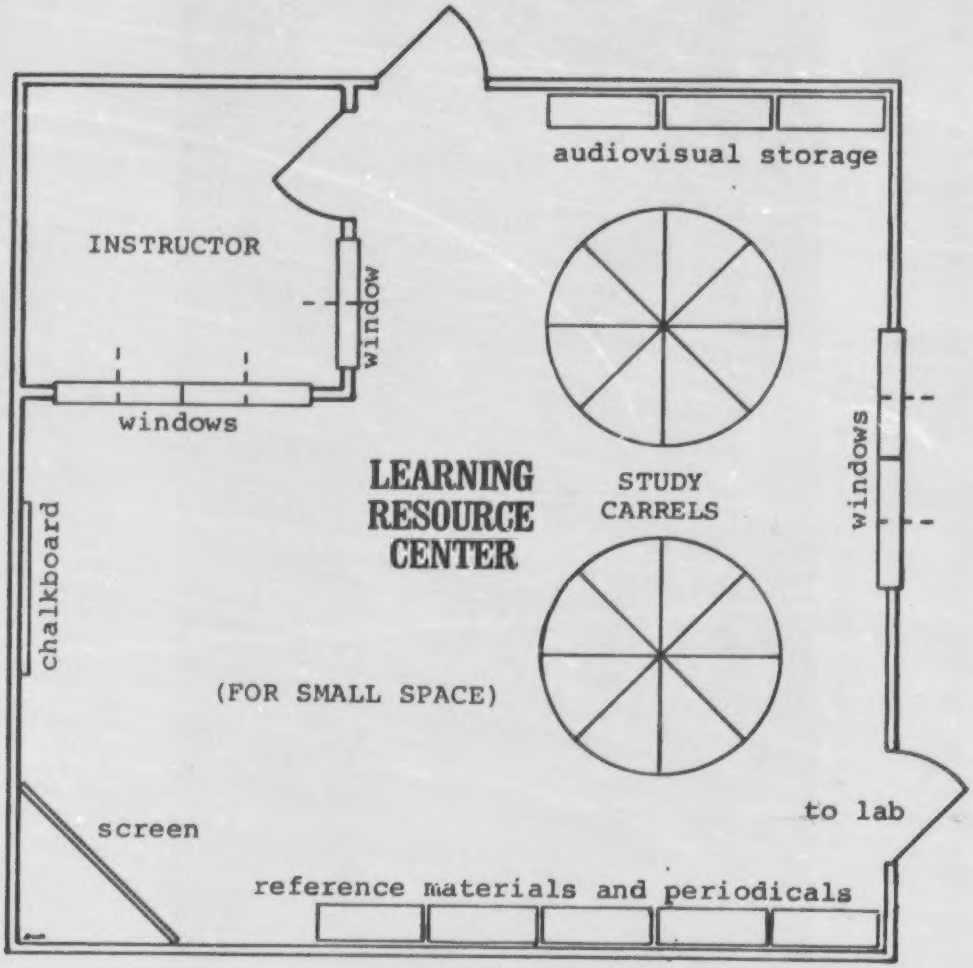
SECTION IX

FACILITY LAYOUT

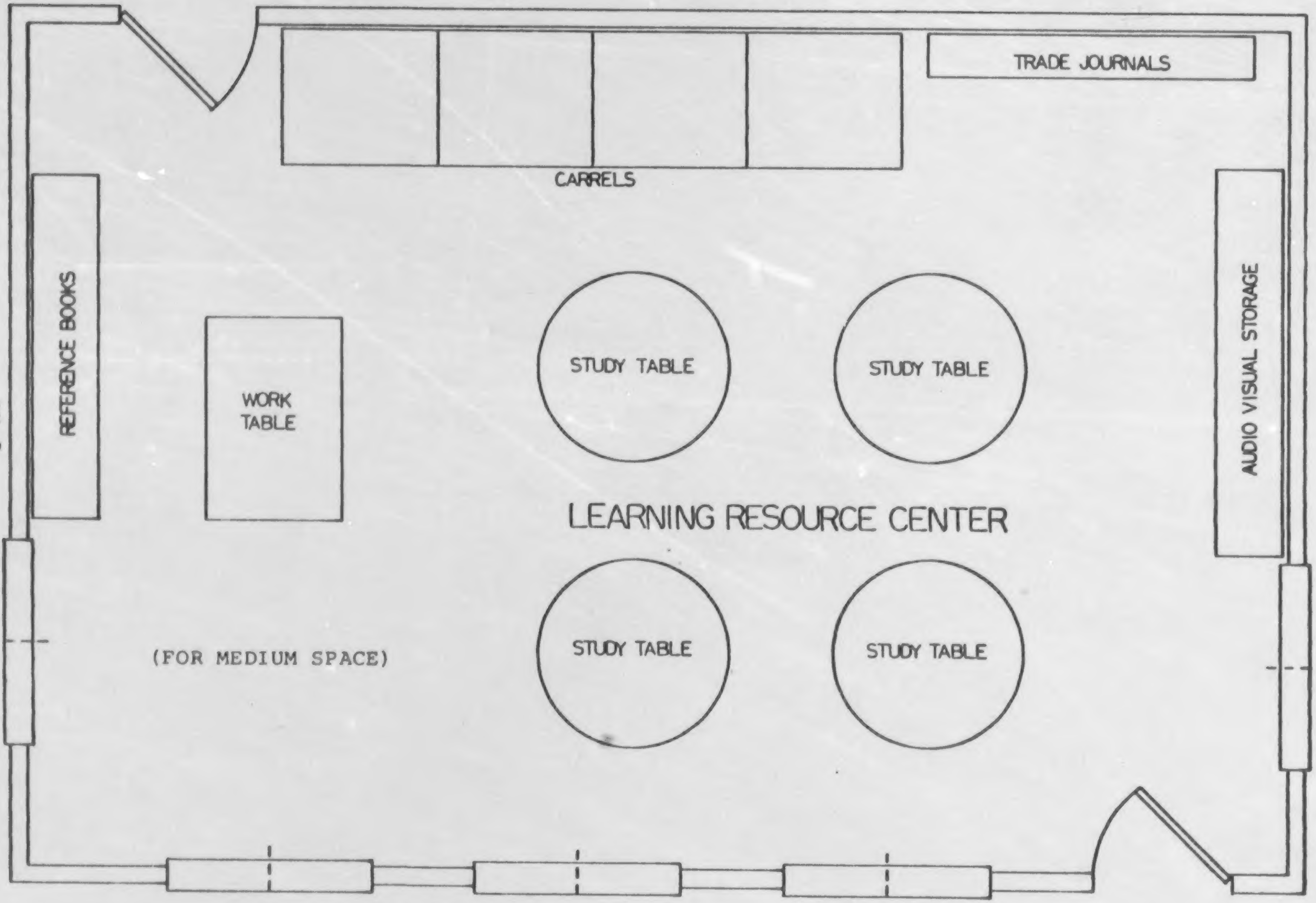
Facility Layout

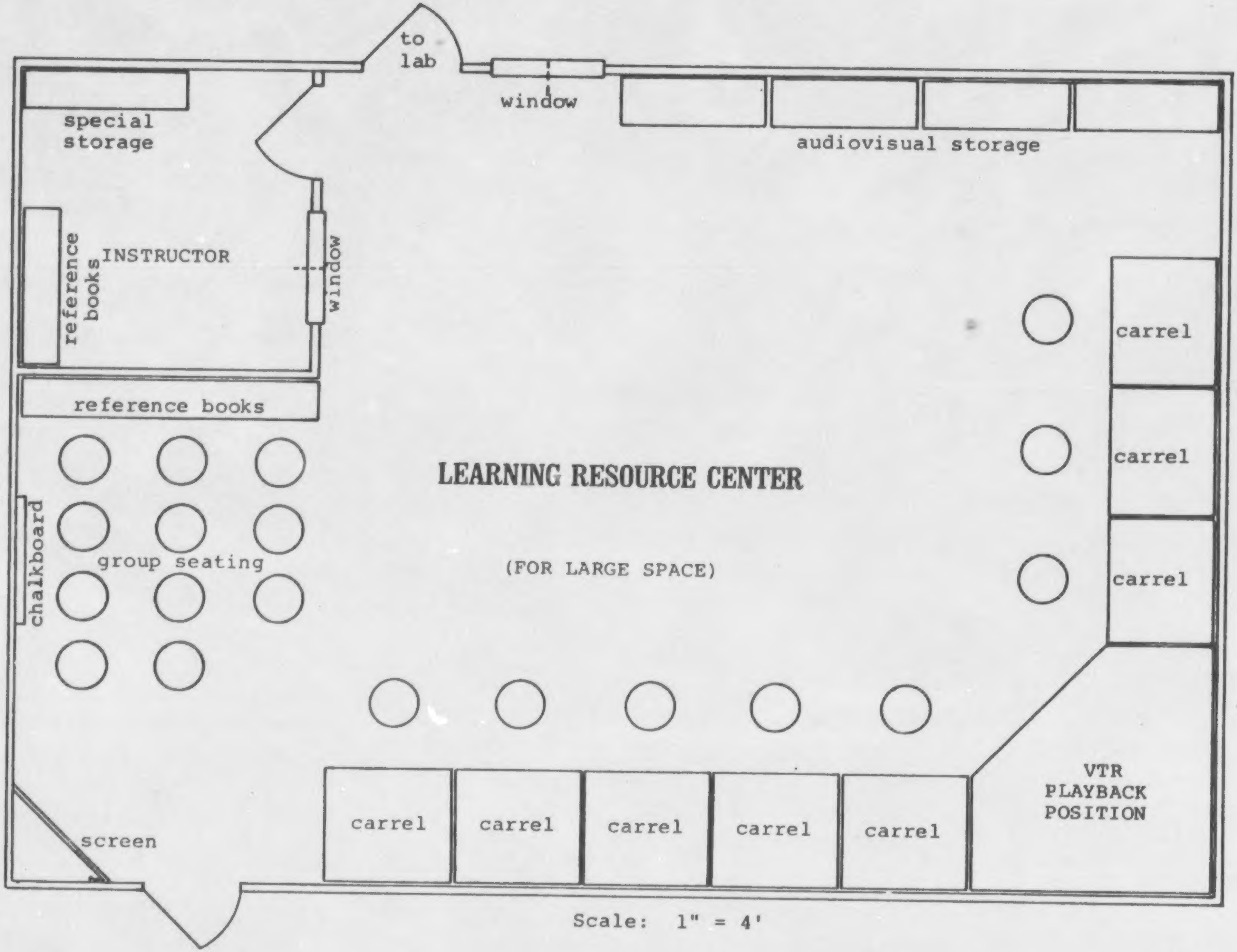
The facility layouts on the following pages are presented to aid in arranging the classroom and laboratory for efficient instruction. One facility layout and three resource center arrangements are presented. Ultimately, the instructor must determine an arrangement that best fits the needs of the students and the instructional method being used.

The laboratory facility layout is taken from a successful Graphic Arts program in Georgia. The facility should be easily adaptable to a variety of arrangements that will best fit local needs. These layouts may be especially useful in those schools where classroom renovation or construction is being planned.


audiovisual storage
INSTRUCTOR
window
windows
LEARNING RESOURCE CENTER
STUDY CARRELS
windows
chalkboard
(FOR SMALL SPACE)
to lab
screen
reference materials and periodicals

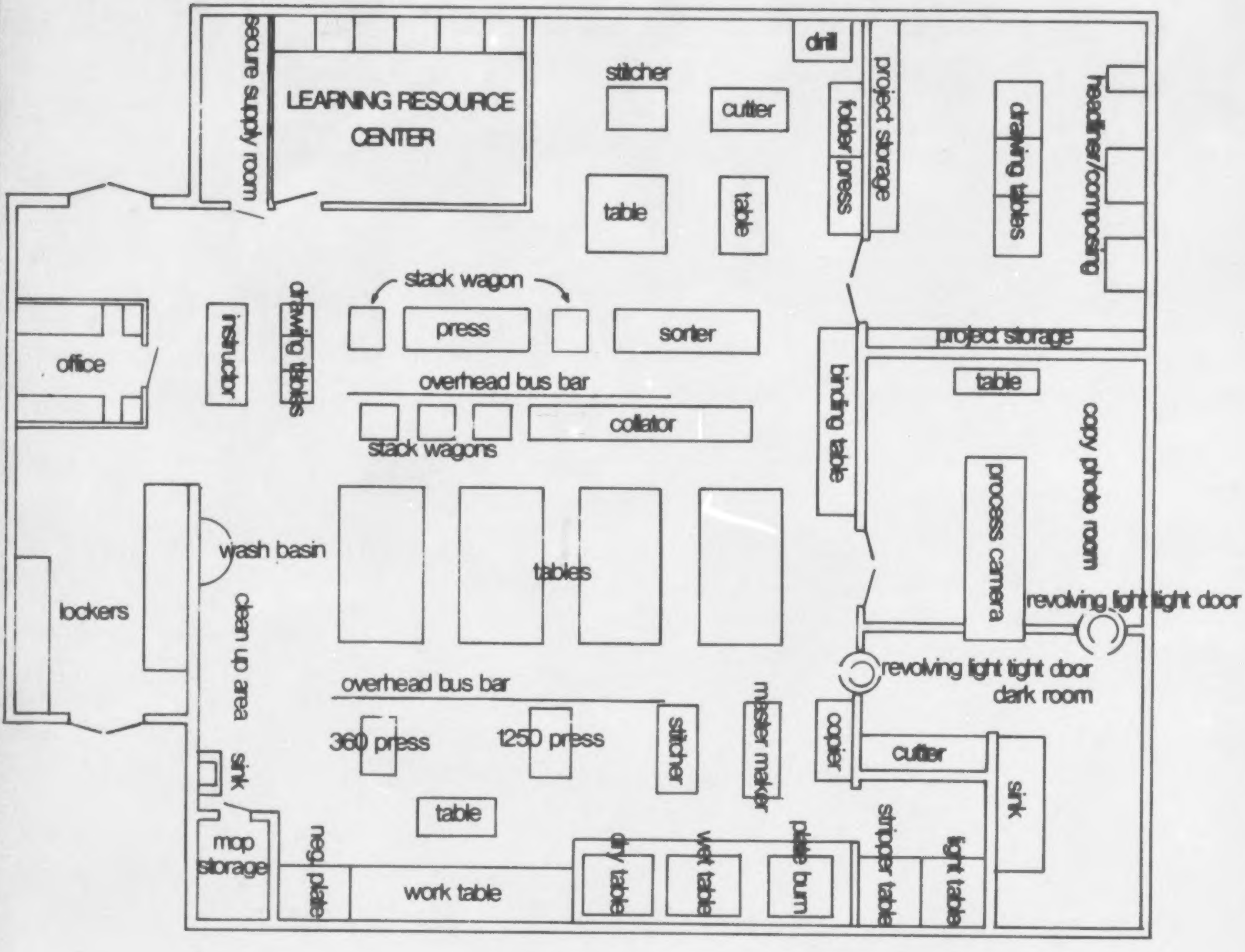
Scale: 1" = 4'


TRADE JOURNALS
CARRELS
REFERENCE BOOKS
WORK TABLE
STUDY TABLE
STUDY TABLE
AUDIO VISUAL STORAGE
LEARNING RESOURCE CENTER
STUDY TABLE
STUDY TABLE
(FOR MEDIUM SPACE)


to lab
window
special storage
audiovisual storage
reference books
INSTRUCTOR
window
reference books
LEARNING RESOURCE CENTER
chalkboard
group seating
(FOR LARGE SPACE)
carrel
carrel
carrel
carrel
carrel
carrel
carrel
carrel
VTR PLAYBACK POSITION
screen

Scale: 1" = 4'

GRAPHIC ARTS LABORATORY


secure supply room
LEARNING RESOURCE CENTER
stitcher
cutter
drill
project storage
folder press
drafting tables
headliner/composing
table
table
stack wagon
press
sorter
office
instructor
drawing tables
project storage
overhead bus bar
collator
stack wagons
binding table
table
copy photo room
process camera
wash basin
tables
lockers
clean up area
revolving light tight door
revolving light tight door
dark room
overhead bus bar
360 press
1250 press
stitcher
master maker
copier
cutter
sink
sink
table
mop storage
neg. plate
work table
dry table
wet table
plate burn
stripper table
light table

SECTION X

DEFINITION OF TERMS

DEFINITION OF TERMS

1. AV's-Audiovisuals - May refer to any picture and/or sound media. (ie. slides, tapes, filmstrips, 16 mm films, etc.)

2. Checkpoint - A student-instructor interface point wherein the instructor may give the student a test, perform a demonstration, or simply provide the student with additional needed information or instructions. Also a checkpoint may be used for motivational purposes.

3. Competency - The ability (knowledge, skills and attitudes) to perform all of a group or cluster of related tasks required to complete a designated activity according to occupational standards. In the educational setting the statement of a competency includes expected student outcomes in terms of knowledge, skills, and attitudes required to complete a designated activity as defined by incumbent workers according to the standards of the work place.

4. Course - A grouping of tasks and competencies which have a common knowledge base or are within a given domain.

5. Criterion-Referenced Measure - An exercise based upon a performance objective, the accomplishment of which measures attainment of that objective.

6. Criterion-Referenced Test - A test designed to measure student competencies based on job or industrial standards.

7. Curriculum Guide - A document containing the objectives, content, organization, and structure of an instructional program. It is designed for use by administrators, instructional supervisors and teachers.

8. D.O.T. - Abbreviation for Dictionary of Occupational Titles. Document provides nine digit codes identifying each occupation.

9. Duty - One of the distinct major activities involved in the work performed, comprising related tasks.

10. Exit Point - A predetermined point within an instructional program in which a student may exit with the essential competencies for a specific job. Usually defined in terms of D.O.T. codes and/or O.E. codes.

11. "Hands-On" - Statement implying the student is physically involved in a learning activity.

12. Individualized Instruction (I.I.) - A system of instruction allowing for a student to progress at their fastest rate.

13. Job - A specific area of specialization within an occupational field consisting of several closely related duties for which a person would expect to receive remuneration. Should be identified by DOT code.

14. Job Sheet - (Or Operations Sheet) - A project of a performance nature. Generally performed by the student in a lab or shop type environment or in a specialized work area.

15. Live Work - Generally refers to items brought into the course area for repair or adjustment. Examples of live work might be automobiles, radios and TV's, air-conditioners, etc. Another form of live work would be patrons visiting the cosmetology department to receive permanents or other services.

16. Master Copies - Original copies of slides, tapes or written materials set aside for the purpose of duplication.

17. Occupational Cluster - A group of occupations sharing a common core of competencies. Georgia's comprehensive high school vocational program is organized around this concept.

18. Occupational Inventory - A listing of tasks to be performed in a particular occupational area, grouped under duty classifications.

19. O.E. - Refers to the U. S. Office of Education. O.E. codes are a classification system (taxonomy) for occupational education programs.

20. Open Entry - Term meaning that a student may enter the program at any time and does not have to wait for quarter or semester breaks.

21. Open Exit - Term meaning that a student may leave a program any time he/she completes their occupational objective.

22. Performance Guide - A series of steps, arranged in a sequence ordinarily followed, which when completed may result in the performance of a task. Also called "teaching steps."

23. Performance Objective - A statement in precise, measurable terms of a particular behavior to be exhibited by a learner under specified conditions. It possesses each of the elements or characteristics specified below:

    a. Condition - The testing situation confronting the learner is clearly specified. This includes equipment provided or withheld, environmental constraints such as temperature, space, etc.

   b. Performance - The specific behavior expected of the learner is stated.

   c. Standard - The degree of acceptable performance is specified.

24. Performance Test - A test entailing not only the ability to answer questions, but measuring the students' ability to operate, manipulate, or perform a given task as well.

25. Program - An organized sequence of courses leading to an occupational objective. A program may contain one or more student exit points as defined by D.O.T. codes.

26. Program Objective - The outcome of a prescribed program of instruction. Usually expressed in terms of the occupation or job for which training is designed. D.O.T. codes are frequently used to identify program objectives or student exit points.

27. Self-Paced - Refers to a student moving through the prescribed training program at the fastest pace at which the student can meaningfully learn.

28. Sequencing - Putting any set or series of learning activities or tasks into proper order or sequence. Normally arranged from the simple to complex within groupings or blocks.

29. Software - Written or printed materials, slides, filmstrips, tapes, etc.

30. Student Manual - A document designed for use by students in a specific instructional program. It contains unit sheets, references, operational procedures or job sheets, etc.

31. Task - The smallest division of work in which a measurable output occurs. A logical and necessary step in the performance of a duty.

32. Task List - A listing of tasks performed by incumbent workers within a domain of interest. An example is a listing of all tasks performed by an automotive mechanic or by a worker in ornamental horticulture.

33. Unit - One "module" training materials; generally covering one learning task and programmed on one Unit Sheet. May cover more than one lesson.

34. Unit Guide - A curriculum guide sheet that lists a task and objective with the instructional activities, instructional materials, evaluation and approximate time required for a student to successfully complete the task.

35. V-TECS Catalog - A comprehensive collection of performance objectives, performance guides, criterion-referenced measures, and related data, organized by a job structure or career ladder within a domain of interest.

Federal law prohibits discrimination on the basis of race, color or national origin (Title VI of the Civil Rights Act of 1964); sex (Title IX of the Educational Amendments of 1972 and Title II of the Vocational Education Amendments of 1976); or handicap (Section 504 of the Rehabilitation Act of 1973) in educational programs or activities receiving federal financial assistance.

Employees, students and the general public are hereby notified that the Georgia Department of Education does not discriminate in any educational programs or activities or in employment policies.

The following individuals have been designated as the employees responsible for coordinating the department's effort to implement this nondiscriminatory policy.

Title II - Loydia Webber, Vocational Equity Coordinator
Title VI - Peyton Williams Jr., Associate Superintendent
of State Schools and Special Services
Title IX - Evelyn Rowe and Myra Tolbert, Coordinators
Section 504 - Jane Lee, Coordinator of Special Education

Inquiries concerning the application of Title II, Title VI, Title IX or Section 504 to the policies and practices of the department may be addressed to the persons listed above at the Georgia Department of Education, State Office Building, Atlanta 30334; to the Regional Office for Civil Rights, Atlanta 30323; or to the Director, Office for Civil Rights, Education Department, Washington, D.C. 20201.

"END OF DOCUMENT".